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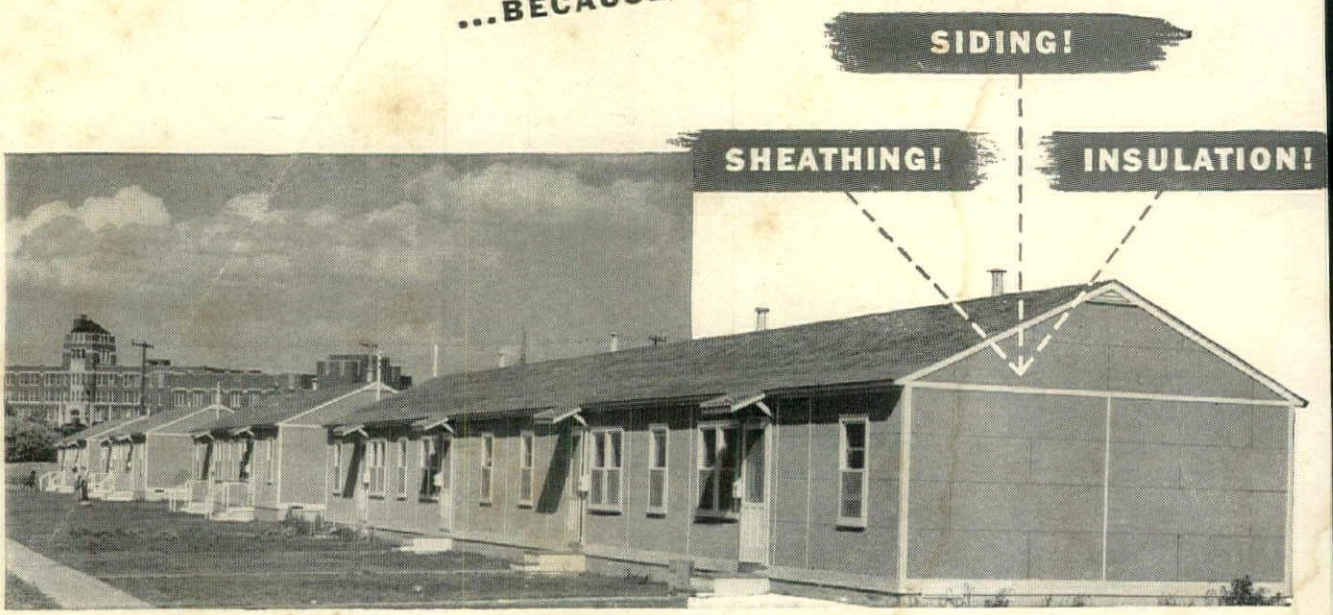
THE ARCHITECTURAL FORUM

DECEMBER 1943

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THE ARCHITECTURAL FORUM

DECEMBER 1943

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DODGE CHICAGO PLANT 49
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Since January 1, 1943, TIME, LIFE, FORTUNE and THE ARCHITECTURAL FORUM have been cooperating with the War Production Board on conservation of paper. During the year 1943, these four Time Inc. publications will have used 14,600 fewer tons of paper than in 1942. In view of the resulting shortage of copies, please share your copy of THE FORUM with friends.

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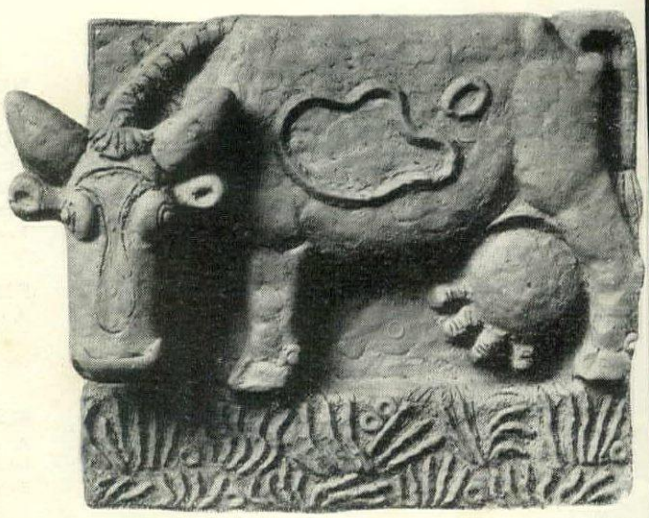
Managing Editors, George Nelson, Henry Wright; *Art Director,* Paul Grotz; *Assistants,* Louise Cooper, Ruth Feierabend, Mary Sanders, Dorothy Oshlag, Richard E. Saunders, Madelaine Thatcher. *Publisher,* Howard Myers; *General Manager,* Ruth Goodhue; *Advertising Manager,* George P. Shutt.

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VOLUME 79—NUMBER SIX



BOVINE BEATITUDE SURVEYS A PLAYGROUND



MOWGLI AND BAGEERA, STATUE FOR SCHOOLYARD

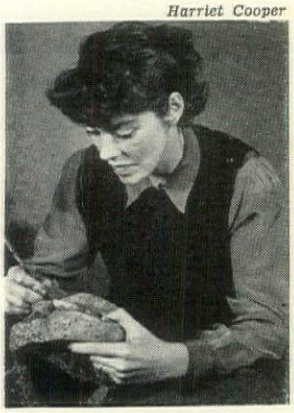


BABY WEASELS, RELIEF FOR CROW ISLAND SCHOOL

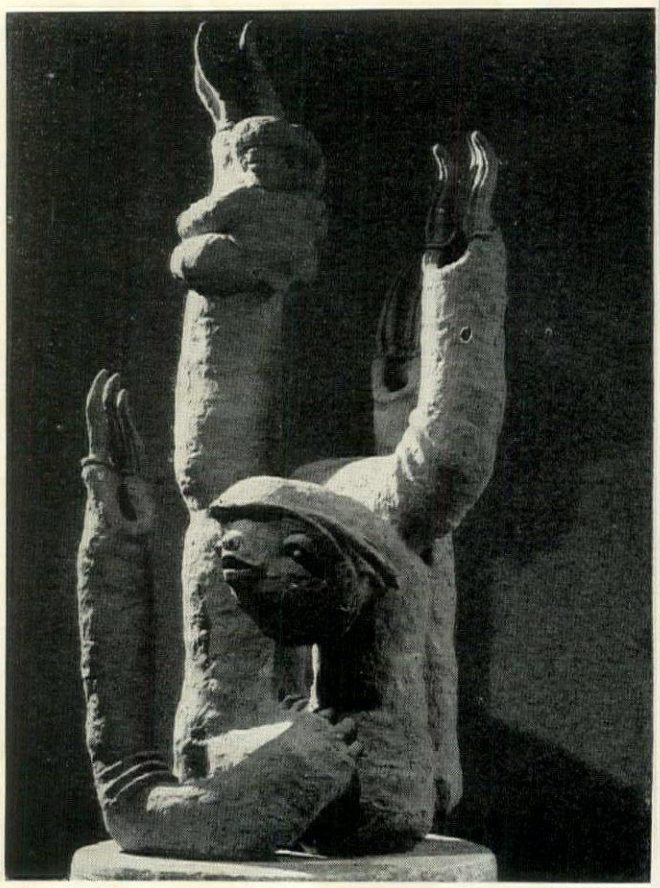
LILY SAARINEN's architectural ceramics

It is to be regretted that ceramics as a medium for large scale outdoor sculpture has not been further developed in this country. Lily S. Saarinen's recent exhibit at the Midtown Gallery demonstrated that clay as a material can play an important part in architectural detail. Set into a brick wall, it affords a contrast of texture which is pleasing and appropriate. Perhaps its most important contribution is the introduction of color in varying degrees of intensity. Many of the works shown illustrated this feature: the face and claws of the sloth have a silver luster finish, the Mowgli and Bageera piece is executed in a highly glazed blue-green, other pieces have a clay finish flecked with metal. There is nothing pretentious about Lily Saarinen's work, a reflection, perhaps, of its subordination to architecture. Most examples on exhibit were designed for the Crow Island School in Illinois and for two middle western post offices. Since their objective was a simple, direct presentation, the resulting work is refreshing and whimsical. As always, ceramics is practical for outdoor sculptural purposes. Large pieces without hollows or crevices stand up admirably under heavy frost and energetic handling by children.

Harriet Cooper

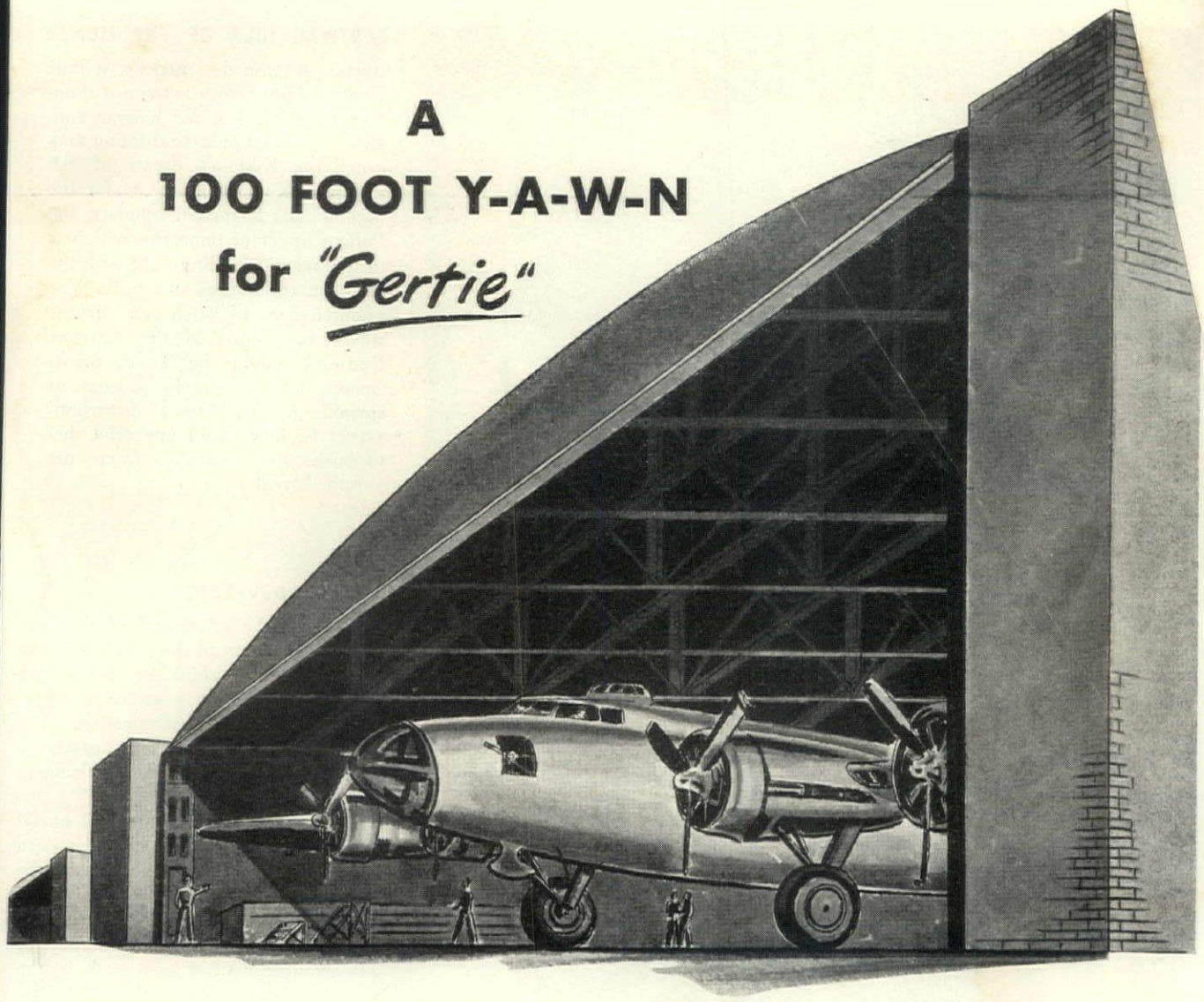


SLOTH RETAINS THE ANIMAL'S VISCOSE QUALITY



James Packard, Photos

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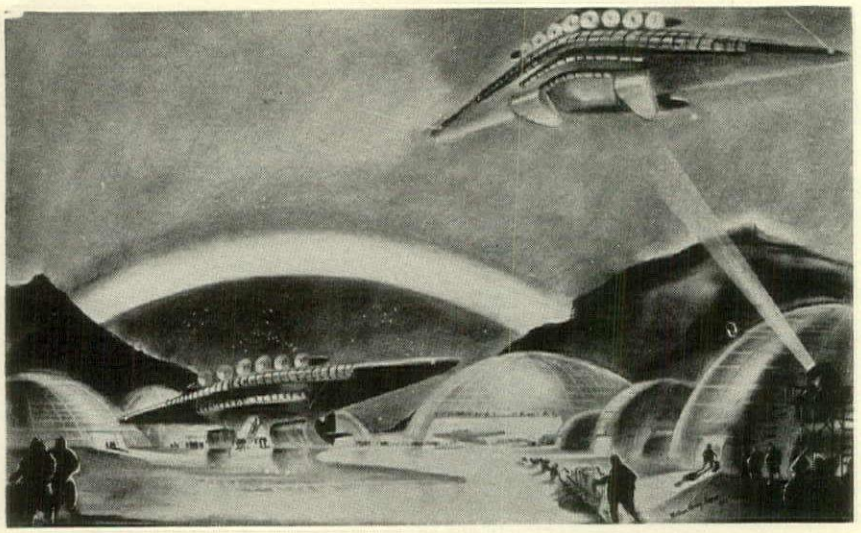
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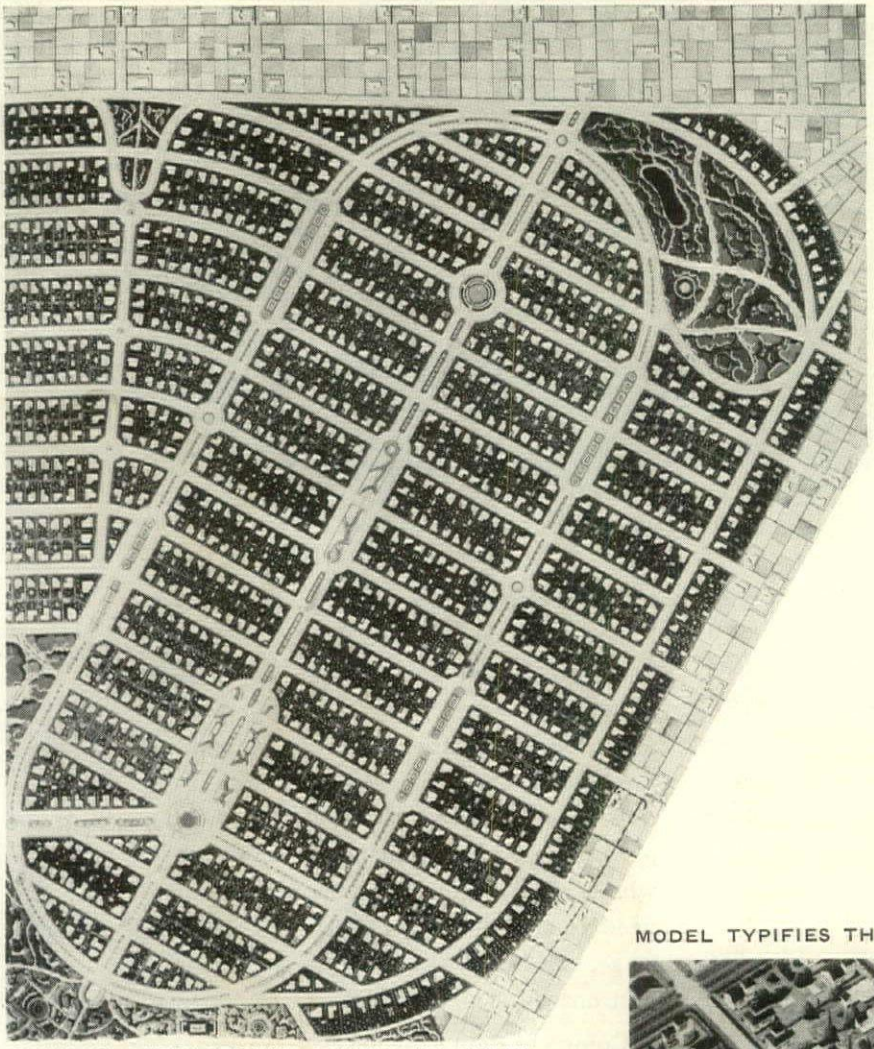
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POSTWAR IDEA OF THE MONTH

Arctic air base designed by Wilbur Henry Adams forecasts the use of native material, ice, for hangar construction. Total industrialization may crush the Eskimo's dream of fish and parkas. To compensate for the flight of the terrorized reindeer, the Polar Clipper of tomorrow will roar to the nearest landing field with the daily quart of irradiated milk. The maintenance of such an airport would be simple in the extreme. Runways could be kept mirror smooth by the simple process of sprinkling. The most disturbing aspect is, how could any pilot distinguish the beacons from the aurora borealis?



MEXICAN DEVELOPMENT COVERS 480 ACRES

AVERAGE PLOT IS ABOUT ONE-THIRD ACRE



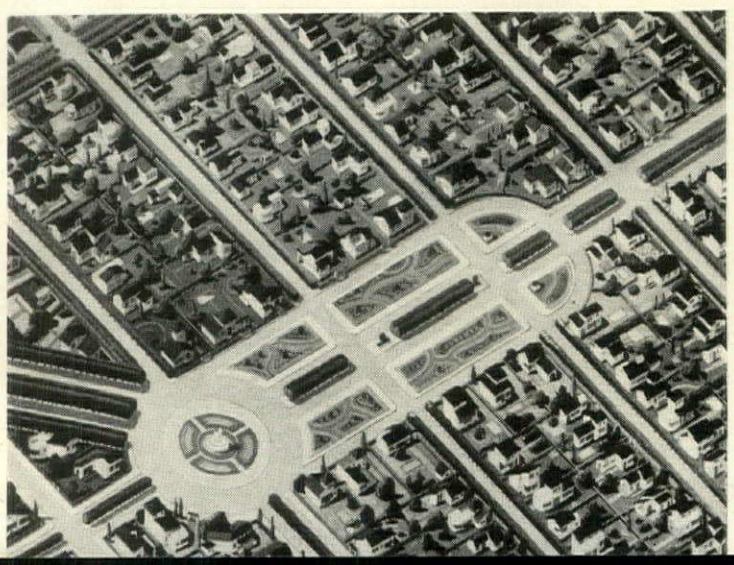
MEXICO "DEVELOPS"

Located at the other end of the continent in the heart of the Mexican cotton district, the development below has been undertaken by a group of financiers interested in urbanization. The architect was Gaston Chaussat, a Frenchman who has been practising in Mexico for about 25 years.

Though the meticulous detail model of the circle shows a certain modern influence on the local architecture, the grid pattern of the site plan is rigid and antiquated. An inadequate attempt to relieve the inevitable monotony of this arrangement has been made by the introduction of some rather elaborate plazas and planting along the principal streets. The designer feels that future architecture in the hemisphere will take on an international continental character; that the future of the Americas is based on a rapid evolution in the South and Central American countries under North American impulse. For these reasons he is eager to publicize Mexico's efforts to better material and social conditions.

(Continued on page 126)

MODEL TYPIFIES THE USUAL MEXICAN SUBURBAN PROJECT





Planning FOR AFTER THE WAR?

MANY large commercial organizations are laying out new stores to be begun as soon after V-day as possible. These plans in some cases are being reduced to blue prints and specifications, so that among other things, more jobs will be available when the boys come home.

If you have such work to do let us show you what magnificent effects are possible with Formica for wall and column coverings, doors, show window backgrounds, as well as for counters and table tops.

Data on methods of installations, colors, patterns are available as well as a discussion of the many advantages of the material in durability, and ease of maintenance made possible by the Formica plastic surface.

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INSIDE BATHROOMS are better ventilated, can be better located than outside baths with windows.

The Great American Bathroom, despite mass production of streamlined fixtures, has not changed fundamentally since the introduction of indoor plumbing. At first bathrooms were simply made-over hall bedrooms in which the equipment was installed. Since then, it has been assumed that bathrooms, like other rooms, must necessarily be located on outside walls and provided with windows for light and ventilation.

Inside baths have rarely been planned except as supplementary or in addition to an outside bath. Until comparatively recently, designers of large apartment buildings continued placing baths on exterior walls despite the fact that the inside bath has many functional advantages in addition to the obvious savings in exterior wall space, which might better be devoted to other rooms.

One reason why inside bathrooms work better than those on outside walls is that they are usually better ventilated. Artificial ventilation insures a constant flow of air in one direction, that is, from other rooms into the bath, where objectionable odors are drawn off which otherwise might be distributed throughout the apartment. Mechanical ventilation establishes fixed constant ventilation not only of the bath, but cross-ventilation of other rooms. Because air is drawn from the rest of the apartment, the bathroom temperature remains fairly constant.

Secondly, this ventilation works all the year round, whereas bathroom windows are frequently closed almost all winter. One cold blast of air is enough to keep the window closed for the remainder of a day, if not the season. Neither are city dwellers likely to leave a bathroom window open for long and let the soot sift in.

The equipment in the inside bath may be economically arranged on one wall without blocking access to a window, as is so often the case with the outside bath. This has been the cause of serious accidents, as the tenant may easily slip on a wet floor or tub when reaching over or stepping into the tub to open the window. Light from the small window is generally inadequate for either shaving or making up, and for this reason artificial light is preferred.

In multiple family structures the interior bath offers a series of advantages in terms of unit layout. Interior baths can often be placed in space that would otherwise be wasted in large foyers, hallways and closets, leaving the perimeter walls free for rooms which require outlook and natural light. This permits better utilization of floor area and substantial savings in construction costs. In large apartment houses and housing projects, the interior bath also allows a great deal more flexibility in the arrangement of rooms than is feasible when baths must be located on exterior walls.

In a number of recent projects for which alternate plans have been prepared on the basis of exterior and interior baths, it has been demonstrated that the use of the latter results in a considerable saving in gross floor area for the same number of rooms and apartment units per floor, as well as a more advantageous location of bedrooms and living rooms. In one such comparison, an apartment having 44 rooms per floor was redesigned on the basis of interior baths to produce an additional rentable room on each floor, despite a reduction in the gross floor area which saved more than 2,000 sq. ft. of land per building unit.

Even in some free standing houses the added flexibility in planning may permit a more economical arrangement of the various rooms and a better relationship between the rooms, especially when there is more than one bath. A second bath might be put into an odd spot where there is a small amount of extra space, whereas if it must be placed on an outside wall, the designer cannot take advantage of such areas. In the city row house which is limited to two exposures, locating the bath in the interior part of the house may be particularly desirable.

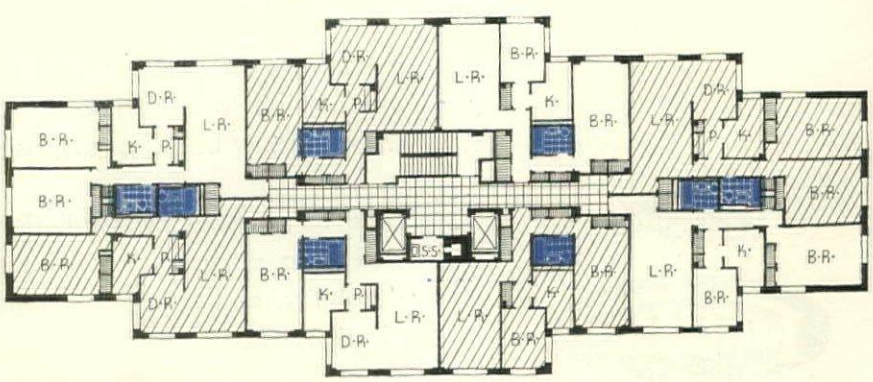
The possibilities for flexible planning are innumerable when both types of baths can be used. Variations on each would be the outside bath with mechanical ventilation or the inside bath with natural ventilation. Both have been designed in such a way as to obtain inherent advantages.

Legal difficulties

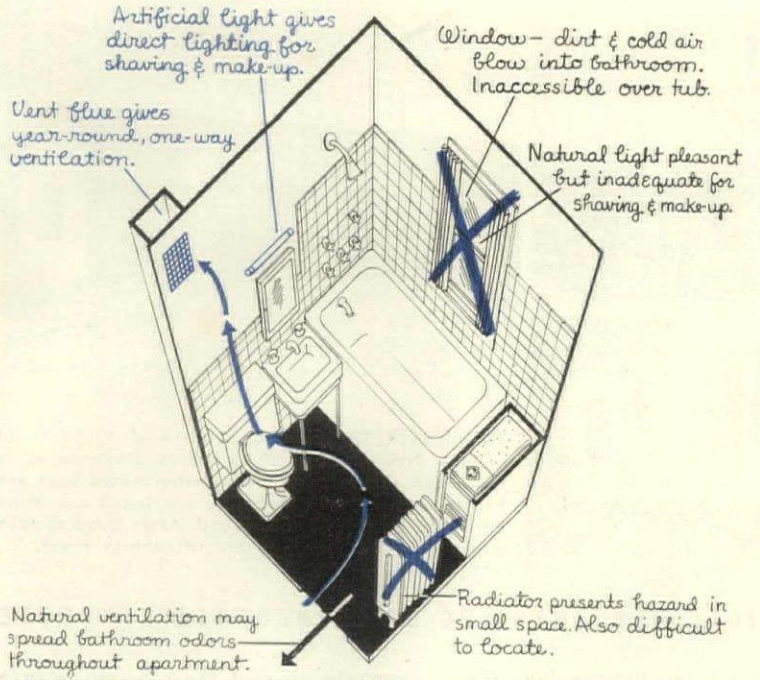
Building laws have always regulated the design of baths, exterior and interior, because of their importance to public health, and frequently have prohibited the use of the latter altogether, or made it so difficult to design them that their widespread use has been discouraged. Logically enough, interior baths were first designed and permitted by law in hotels, where every inch of space, and especially exterior wall space, is at a premium. Recently, building laws in most of the larger cities have been changed to permit mechanically ventilated baths under carefully controlled conditions and only in structures in which proper maintenance will be insured.

It is impossible to generalize about building laws for the entire country, since they vary from state to state and city to city, depending on various local considerations. However, New York State laws, which have taken the lead in making provisions for the inside bath, may be considered indicative of the general movement to bring building laws in line with modern conditions. These laws were recently amended to permit mechanically ventilated baths in fireproof multiple dwellings in which one or more power passenger elevators are operated. It is assumed that the ventilating system in this class of building will be properly maintained.

Ventilation in new multiple dwelling construction must be mechanically



LAYOUT ADVANTAGES of the inside bath can be noted in this apartment plan for the Equitable Life Assurance Society. By locating baths in interior parts of the building, larger window area can be achieved in other rooms.



INSIDE BATH HAS MANY ADVANTAGES OVER AN OUTSIDE BATH

operated so that there is positive ventilation eighteen hours a day, "providing at all times not less than four changes per hour of the air volume of such water closet or bath compartment." Most mechanically operated systems provide as many as fifteen changes per hour. The law also stipulates that the bathroom door should either have louvers or ½ in. air space between the bottom of the door and the sill. A fan must be situated at the top of a vertical flue to mechanically exhaust the air from a tier of baths. Grilles in each bath (minimum free area 6 x 6 in.) must have louvers or a damper which closes automatically in case of fire. Duct sizes are governed, of course, by the volume of air to be handled, and increase in cross-sectional area every few floors to handle increased air volume. They must be constructed either of terra cotta or of sheet metal and must be fireproofed for their full length.

In converted buildings and tenements, the provisions of the law are somewhat more lenient. Interior baths for buildings of this type may be ventilated either by gravity ducts connected with the hot water system or to a wind-driven ventilator. These gravity ducts, however, must be larger in size to allow for the slower movement of air. Also, each duct must be separate from every other duct, extending vertically to the roof. The provision for locating the hot water supply pipes near the base of the duct to stimulate gravity circulation of the air is an ingenious device to provide an active updraft at all times, even in warm summer weather. While this method of ventilation is perhaps somewhat uneconomical, it has the advantage of being completely foolproof in operation and requiring no maintenance whatsoever. Either of the above systems of ventilation could also be used to advantage for interior baths in individual houses. In no case does the New York law permit the use of simple gravity ventilation for interior baths, since it is found that this method, while thoroughly adequate in winter weather, will not function properly in summer.

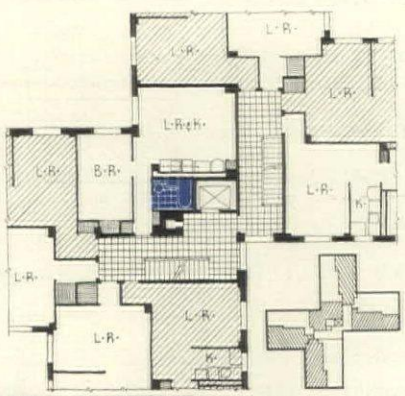
Prejudices against interior baths

In spite of the recent legal provisions allowing mechanically ventilated baths in new multiple dwelling construction, they have been used in comparatively few designs. Antiquated thinking, not antiquated laws, has prevented more extensive use of the inside bath. The reasons usually given for not employing their inherent ventilating and design advantages are based more on imaginary objections than on real ones and prejudices which have little foundation in actual fact.

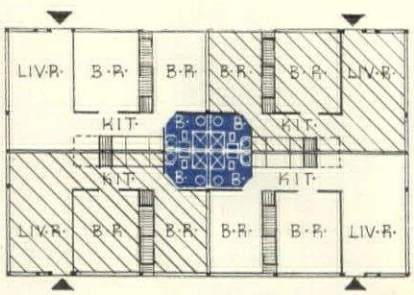
Health and welfare authorities, architects and housing planners have termed inside baths unsanitary, expensive to install, operate and maintain, and psychologically undesirable. These statements can only be refuted by looking at the facts as they really are. Windows in the bathroom are pleasant psychologically, but neverheless offer a rather poor method of ventilation. Most people spend such a small portion of their day in the bathroom that they are unable to enjoy the light and sun therein, and the presence or absence of a window is of little consequence. Inside baths are likely to be better ventilated, better lit and more comfortable in temperature. And even chronic sufferers of claustrophobia have long had to accept inside baths in hotels and offices, along with elevators and air conditioned windowless rooms.

Some practical objections

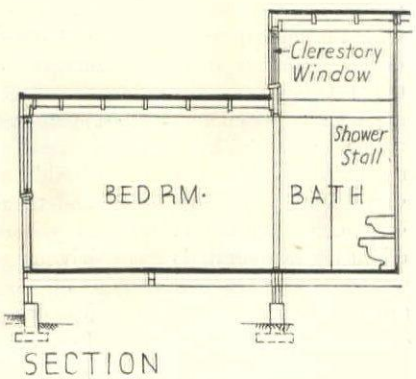
Initial costs of a mechanical ventilating system are, of course, higher than the initial cost of providing windows. Costs, however, must be computed and compared on a larger basis. They must be weighed against the savings in total building construction and amount of square footage gained in other rooms for additional rentable space. In other words, economical planning of the apartment layout and situation of the apartment house on the site may more than offset the cost of the mechanical system. When more apartments are de-



EXTRA APARTMENT per floor is made possible through using a mechanically ventilated bath in center of the building.



INSIDE BATH has clerestory windows. This design variation accomplishes the compact planning advantages of the inside bath, while providing at the same time natural light and ventilation.



signed with interior baths, these savings will be shown in hundreds and even thousands of dollars.

Operating costs of mechanical ventilation are hardly worth mentioning, as the additional electricity cost is so small. At the volume rate for electricity given large apartment projects, or for a building which is also electrically air conditioned, the current consumed costs less than 50 cents per year per bath. Cost of ventilating each bath decreases as the height of the building increases. Not only is the gravity pull of air greater in a longer duct, but more baths may be operated on a single fan.

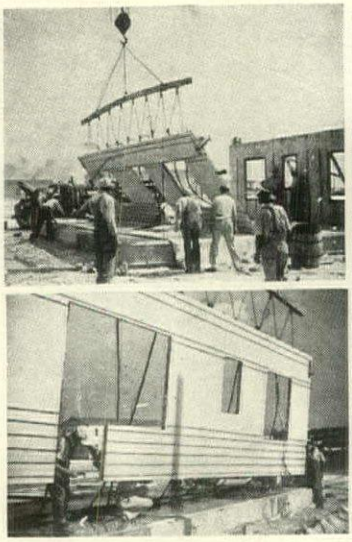
Heating an inside bathroom is less of a problem than heating a bath on an exterior wall. The inside bath is completely insulated and loses heat only through the flue in the normal course of circulation. There are no drafts of cold air from cracks around the window frame. The necessity for running the steam pipe through the bath is thus avoided, since, when the bath opens on the hall, the temperature is the same as in the rest of the apartment. In the case of baths opening on bedrooms where windows are likely to remain open at night, it is a good idea to provide some means of heating the bath in the morning, or possibly to provide the air inlet from the hallway rather than in the doorway opening into the bedroom.

Mechanical ventilation may offer a problem in soundproofing, although as a general rule sounds in the common duct become lost and jumbled from one floor to the next. When the sound is not effectively lost, the duct can be lined with asbestos acoustical felt either for its entire length or for a short distance from each grille. Another method of soundproofing is to stagger the ducts for each bath—to carry each individual branch to a few feet above the next opening before it joins the common duct. Another method is the use of a lateral branch 2 or 3 ft. long, lined with absorptive material which would then lead into the common vertical duct.

Maintenance

The objection raised that mechanical ventilation will not be properly maintained is equally true of any mechanical device—whether it be the furnace or the refrigerator. Fans for the ducts are usually wired to the basement and turned on and off by the management of the building. Maintenance of buildings varies from one to the other, and there is danger that the mechanical system might not be operated or properly maintained in the speculative type of nonfireproof buildings, where operating expenses might be reduced. Low cost

(Continued on page 134)



THIN CONCRETE slabs form walls of these small houses. New method of electrical prestressing is quick and accurate. Thermoplastic-coated bars are heated, nuts on threaded ends are taken up; when bars cool, coating restores bond. After three or four days, 2½-in.-thick walls are lifted into place.

ELECTRICAL PRESTRESSING OF REINFORCED CONCRETE

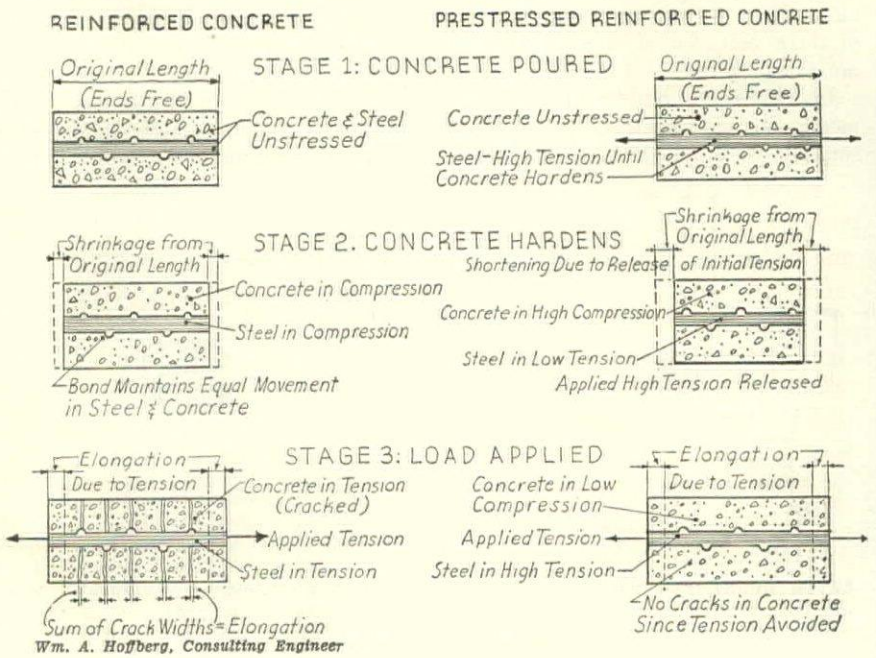
A new method for prestressing reinforced concrete has been developed for walls only 2½ in. thick. Prestressed reinforced concrete construction is a method of eliminating tensile stresses in concrete, which produce cracks. In prestressing, the compressive value of concrete is more fully realized than in ordinary reinforced concrete, and the shear (diagonal tension) value is increased. It also has the advantage of producing concrete of high loading capacity with minimum size and weight.

Former methods of prestressing have not only been difficult to design and to accomplish mechanically, but also made it practically impossible to determine or to control the amount of stress. High initial tension is applied to the reinforcing steel while the concrete is wet, then released when the concrete has become hard. The shortening of the steel on release of this tension produces a high compression in the concrete, so that the concrete is in a precompressed condition. Any subsequent tension applied to the concrete as the result of bending due to applied loads will merely reduce the *high* precompression in the concrete to a *lower* compression stress.

The latest method of prestressing is accomplished electrically after the concrete has hardened. It has been developed by Karl P. Billner, President of Vacuum Concrete Inc., Philadelphia, Pa. for Maritime Commission houses in Tampa, Fla. Slabs 2½ in. thick up to 9 x 30 ft. in size were successfully made by this method.

The Billner method is to coat threaded reinforcing rods with a suitable thermoplastic material before placing the rods in the forms. After the concrete has hardened, electrodes are connected to the ends of each rod and a suitable current passed through the

(Continued on page 134)



Wm. A. Hofberg, Consulting Engineer

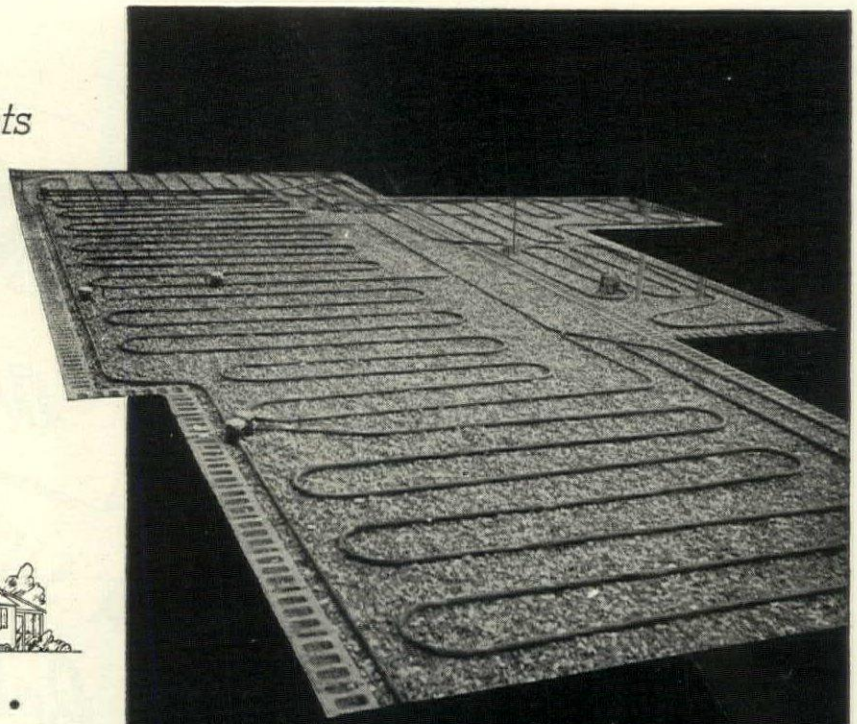
Whether your clients



want this . . .



or this . . .



they can **still** *have*

BYERS RADIANT HEATING

Even today, you'll sometimes encounter an architect who associates Radiant Heating only with Twentieth Century home design. Such an impression needlessly limits the application of one of the most important factors in better housing and better living.

The client whose dream home is one of advanced design, and the client whose ideal is a traditional cottage, can each have Byers Radiant Heating.

Consider, for instance, the two homes sketched above. Both are located in Massachusetts. Both are basementless, founded on concrete mats. And both were completed in 1942, and so have been field-tested by one of the famous New England winters.

The cottage is 1-story, 4-room, cost $5,000 and has a wood floor, nailed to sleepers between which the wrought iron heating coils were laid. The other home is 6-room, 2-story, and cost $10,000. The first floor heating coils are embedded in concrete. The second story coils are installed under wood flooring. The occupants of both homes are enthusiastic about the comfort and economy of Radiant Heating.

The wide variety of structures in which Byers Radiant Heating is already serving has provided a volume of engineering experience that eliminates any necessity for experiment in design, installation or material selection. The desirable thermal characteristics, the excellent fabricating qualities and the unusual corrosion resistance of Byers Wrought Iron have been demonstrated many times over.

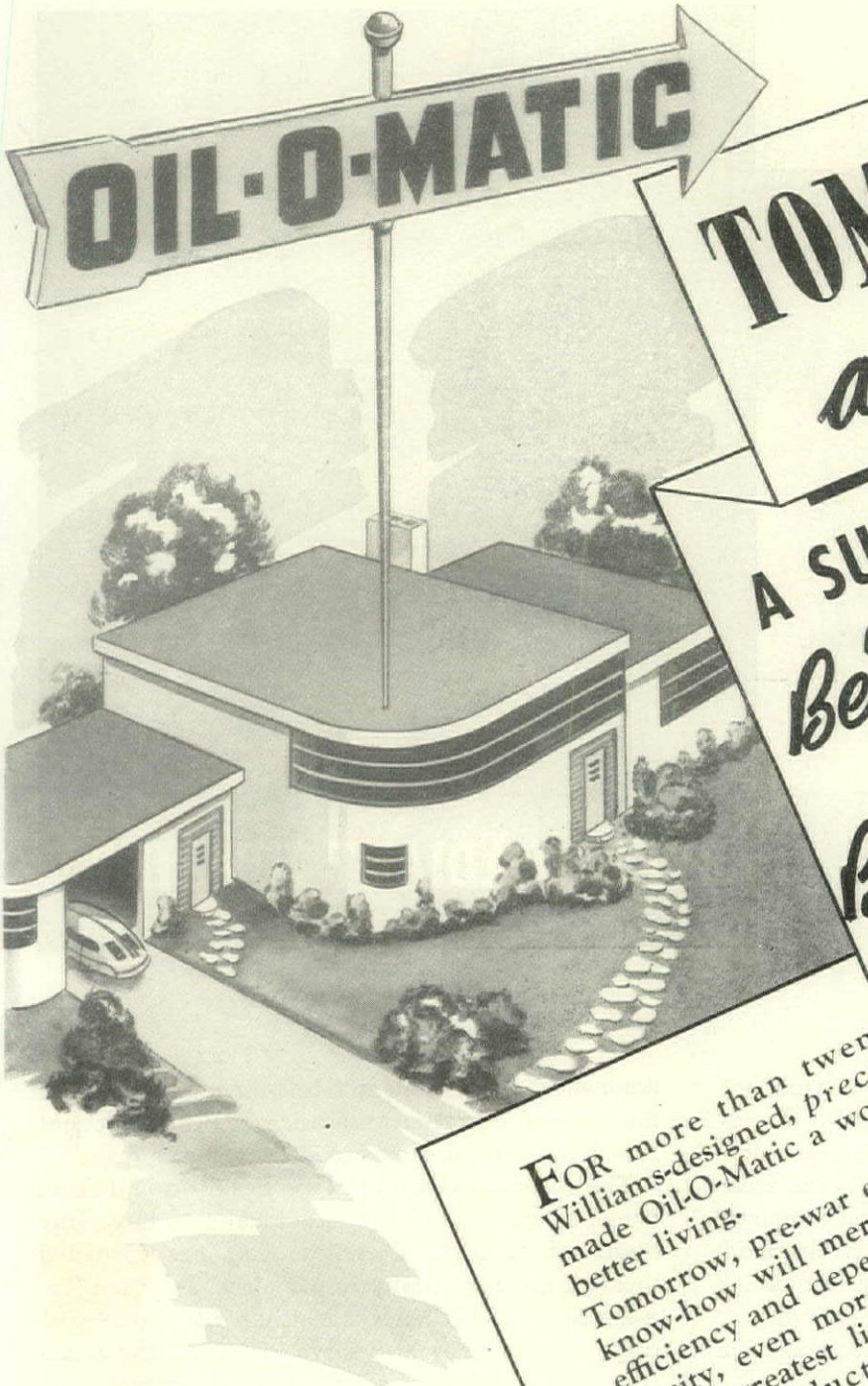
The corrosion-resisting properties of wrought iron come, of course, from its individual structure. Tiny fibers of "iron-glass" silica slag are threaded through the high-purity iron matrix. They act like a series of picket fences, resisting corrosion—and dispersing it. They also serve to anchor the initial film that helps to protect the underlying metal.

Our technical bulletin, "Byers Wrought Iron for Radiant Heating Installations," is an excellent introduction to the subject. When you arrive at the design stage of any project, our Engineering Service Department will be glad to work with you. Would you like a bulletin?

A. M. Byers Company. Established 1864. Offices in Pittsburgh, Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

BYERS WROUGHT IRON

FOR EXTRA SERVICE
IN CORROSIVE APPLICATIONS
CORROSION COSTS YOU MORE THAN WROUGHT IRON



TOMORROW as Always

A SURE SIGN OF Better Living AND Better Business

FOR more than twenty pre-war years, Williams-designed, *precision-built* products made Oil-O-Matic a world-wide synonym for better living.

Tomorrow, pre-war experience and wartime know-how will merge to bring even greater efficiency and dependability, even greater diversity, even more remarkable performance to the greatest line of *precision-built* Oil-O-Matic products ever to serve the America home.

Whatever the design, shape or size of the post-war homes which War Bond billions are going to furnish and equip, you can look to Oil-O-Matic for even better products for better living . . . for *your* better business.

THE BONDS YOU BUY TODAY ARE YOUR GUARANTEE OF A Better Tomorrow!

BUY WAR SAVINGS STAMPS & BONDS

ARMY E NAVY

WILLIAMS OIL-O-MATIC HEATING

WILLIAMS OIL-O-MATIC HEATING CORPORATION

BLOOMINGTON, ILLINOIS

Alcoa Aluminum for the *Architect*

WINDOWS · DOORS · SPANDRELS · MULLIONS · SILLS · SKYLIGHTS · COPING · CORNICES

GRILLES · MARQUEES · STOREFRONTS · LIGHTING FIXTURES · ELEVATOR ENCLOSURES ·



ALUMINUM offers you . . Light Weight with High Strength . . Ease of Fabrication and Erection . . High Resistance to Corrosive Attack . . A Wide Variety of Attractive Finishes.

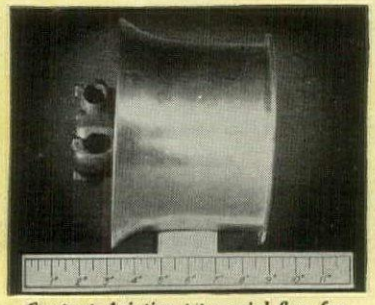
ALCOA offers you . . . the guidance and experience that comes with many years of working with aluminum. Ask for data now to help you design into structures the aluminum which will be released for architectural uses just as soon as the war permits. Aluminum Company of America, 2166 Gulf Building, Pittsburgh, Pennsylvania.

· STAIR RAILINGS · ESCALATORS · MOLDING · HARDWARE · ORNAMENTAL WORK

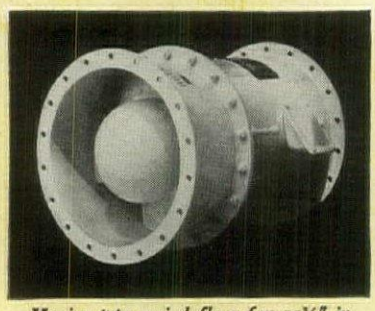
ALCOA ALUMINUM

LA-DEL *AXIAL-FLOW* AIR FANS

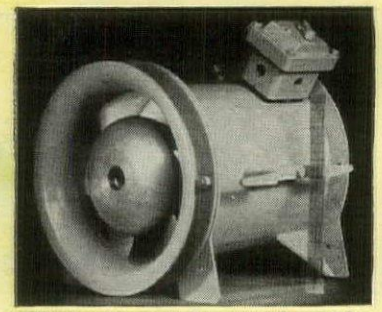
-a name assuring many advantages for post-war developments in the movement of air



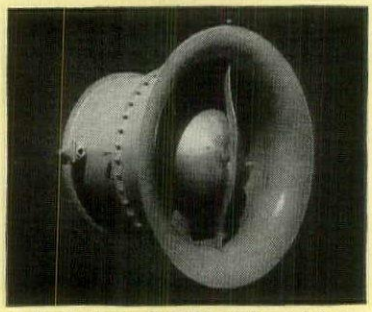
Compact Aviation type axial-flow fan only 6⅛" in diameter x 6" long delivering 400 CFM at 6" static pressure.



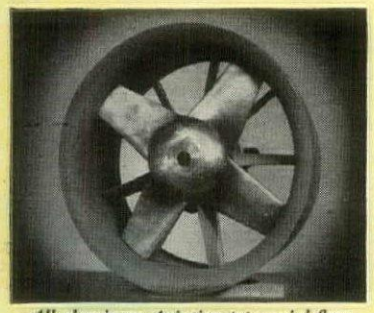
Marine type axial-flow fan 15¾" in diameter; delivering 2000 CFM at 3" static pressure.



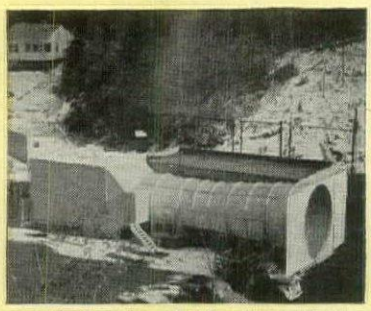
Marine type explosion proof fan 10½" in diameter delivering 500 CFM at 2½" static pressure.



Marine type adjustable pitch axial-flow fan with flared intake.



All aluminum Aviation type axial-flow fan. 70 lbs. complete with 2½ HP motor; 4300 CFM at 2" static pressure.



11 ft. diameter axial-flow fan with exhaust stack and air shaft hood delivering 500,000 CFM at 6½" static pressure.

HERE are a few of the developed sizes of La-Del Troller Axial-Flow Fans. Wartime conditions have prevented offering La-Del Axial-Flow Fans to industry in general, because of war agencies' demand for compact units of this kind.

A wide variety of models at present are available ranging from ⅛ HP to 1000 HP; from ¼" static pressure to 45" static pressure; from 6" in diameter to 11 feet in diameter; and, from 400 CFM to as much as 600,000 CFM.

Post-war La-Del requirements will probably bring about the development of many additional sizes to meet industry's requirements, since present application of Axial-Flow Fans has firmly established the many desirable design features of this type fan.

Many models are available with either fixed pitch blades or adjustable pitch or controllable pitch, making available fan operating ranges never before realized. Control of operation and air delivery is accordingly more closely regulated with the numerous advantages resulting from this in many applications.

ARMY E NAVY

BUY WAR BONDS TO SPEED VICTORY

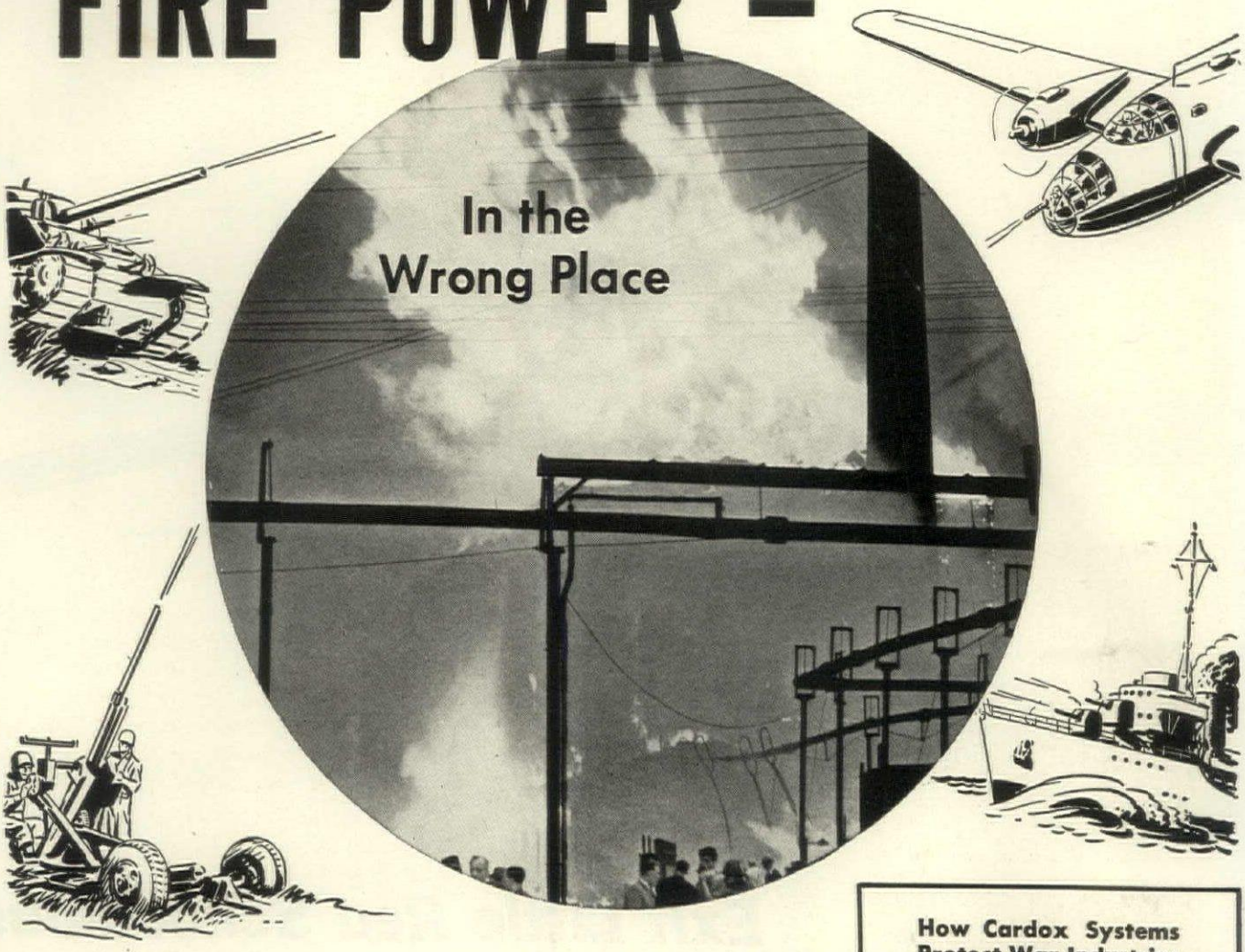
LA-DEL CONVEYOR & MANUFACTURING CO.

NEW PHILADELPHIA, OHIO

ENGINEERS OF LA-DEL AIR MOVEMENT

★ PIONEERS IN THE DESIGN OF AXIAL-FLOW FANS FOR EFFICIENT AIR CIRCULATION ★

"FIRE POWER"—



IS A LIABILITY

"Fire Power" is a two-edged force. Applied by our weapons of war, it is driving the enemy nearer and nearer to complete defeat. Generated by combustibles in a vital war plant, "fire power" can cause crippling delays of war production in a dozen other plants.

Cardox Fire Extinguishing Systems are helping assure plenty of *effective* fire power for our fighting forces by guarding against *destructive* fire power in plants producing such critical war products as:

Airplanes, Airplane Parts, Armor Plate, Aviation Carburetors, Aviation Engines, Cold Strip Steel, Electric Power, Engine Parts, Forgings, Motor Fuel, Plastics, Processed Fabric, Rubber Products, Solvents, Tanks, Tank Engines.

An extremely wide variety of indoor and outdoor hazards—large or small—can be efficiently protected by individually engineered Cardox Fire Extinguishing Systems. By instant smothering of fire and cooling of combustibles through mass discharge of low pressure, low temperature carbon dioxide, they provide the all-important advantages of fast, complete extinguishment . . . *without damage to plant and equipment by the extinguishing medium.*

Today Cardox is concentrating on (1) Fire Extinguishing Systems needed to insure more effective "fire power" for our Armed Forces; (2) plans to increase the efficiency of fire protection, both today and after the war.

If you would like more information, write on company letterhead for Bulletin 6123.

CARDOX CORPORATION
BELL BUILDING • CHICAGO 1, ILLINOIS

District Offices in New York • Washington
Detroit • Cleveland • Atlanta • Pittsburgh
San Francisco • Los Angeles • Seattle

How Cardox Systems Protect War Industries

- Timed discharges, as needed, through built-in piping systems . . . supplied instantly from a single storage unit holding tons (if required) of liquid Cardox CO_2.
- Mass discharge of Cardox CO_2 "knocks out" fire, by . . .
- Reducing oxygen content of the atmosphere below the concentration necessary for combustion, and . . .
- Cooling combustibles and fire zone below ignition temperature . . .
- Extinguishing fire quickly and completely *without* damage from extinguishing medium.

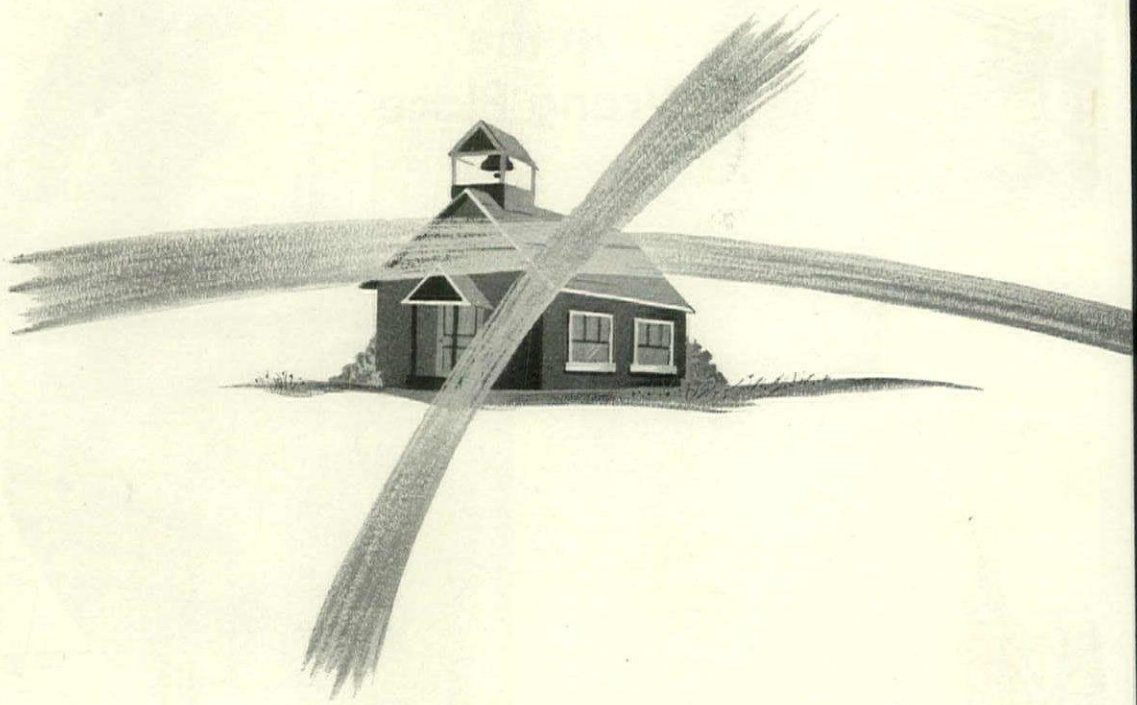
CARDOX—CO_2 Systems with Enhanced Fire Extinguishing Performance

A. Uniformity of CO_2 characteristics.
B. Extinguishing medium with uniformly greater cooling effect.
C. Accurate projection of CO_2 through greater distances.
D. Timed discharges, as needed, through built-in piping systems . . . supplied quickly from a single tank holding tons of liquid Cardox CO_2.

MASS DISCHARGE OF CO_2 · ENHANCED COOLING EFFECT · CENTRAL STORAGE UNIT · AMPLE CO_2 RESERVE · ENGINEERED SYSTEMS · MANUAL OR AUTOMATIC CONTROL

CARDOX

NON-DAMAGING FIRE EXTINGUISHING SYSTEMS



Exit Little Red Schoolhous

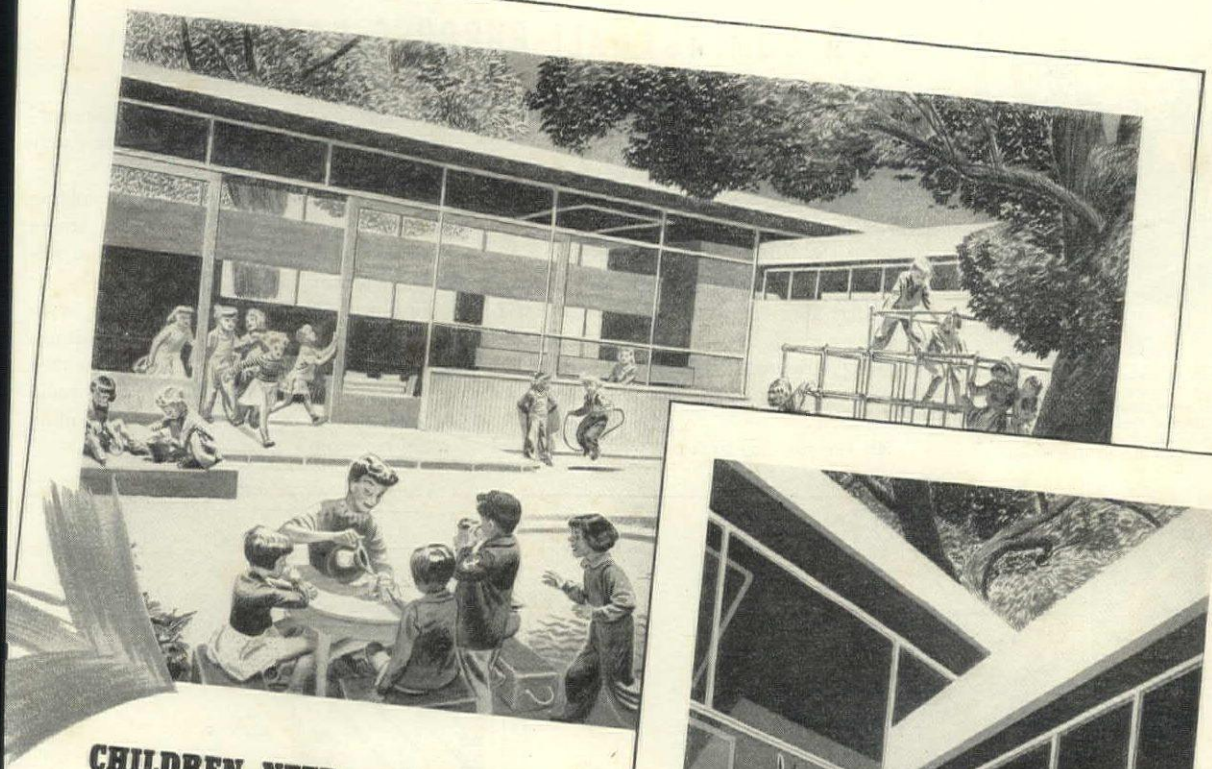
Revere's national advertising campaign on post-war housing, city
community planning, continues to excite a large degree of pu
interest. People everywhere are increasingly conscious of the need
a new order of living for the day of peace to come.

Mr. Chermayeff's plan for a Nursery School is particularly tim
In the war-torn world of today it is more than ever imperative that
children be early trained in character and knowledge to carry the
evitably heavy burdens of their generation to come. The pedagogy
the little red schoolhouse is gone forever. New methods and n
edifices are necessary, and to that end Mr. Chermayeff has mad
constructive contribution.

Revere feels that its interest in post-war building trends benefits
whole industry: architects, builders, contractors, realtors, manuf
turers and financiers. Naturally, it believes that the use of copper a
its alloys makes any building more desirable to live in. Makes it a
better to rent or sell. Adds durability and beauty.

Looking to the morrow, Revere is already planning to produ
improved materials for roofing, flashing, pipe, tube and architectu
shapes in copper and copper-base alloys.

Post-war planners in the building industry are invited to sha
Revere's fund of technical knowledge as to the most effective use
copper and its alloys. Our cooperation is without obligation.



CHILDREN NEED—and would enjoy—

which Copper both protect



BY the time a child enters Grammar School, he has formed many of the habits which will determine his future happiness and success. It is in Nursery School that his willingness to cooperate, his initiative, his ability to get along with others are shaped along the lines they will follow in the years to come.

It is because of this evident importance of the Nursery School that I have created a modern Children's Center, in which the citizens of tomorrow may first experience life as it is lived outside their homes. Here they will formulate personality and physique with the help of trained specialists and special equipment.

For parents, especially the mother, the School provides a release from the strain of dividing attention between the child and other unavoidable duties. (Teachers, too, teach more efficiently because of their "custom-built" set-up.) Beyond that, the Nursery School becomes the inevitable center of many adult community activities.

In my particular Nursery School, provision is made for handling two groups of twenty children each, "Play and rest" units, administrative offices, fully equipped rating and food preparation sections—together with a Training Students unit—all are here. One of the features of my plan is provision for tra persons in child care, home economi subjects. Of course, there's ample outs with the necessary equipment. The ve completely integrated and capable of by a minimum staff, with minimum Easily manipulated teaching and play flexible storage spaces are the rule. Stu constant supervision and control, inclu Students Observation Room, where th be observed without the trainees bein

The design combines great flexibi standardized elements. Its cost is su because it employs new techniques and But it is planned to take hard wear and use. That is why copper plays an throughout, to give the most lasting sible against exposure and wear. So metal are explained on the opposite pa advertisement.

A Nursery School, as outlined here portant to parents, to teachers, to city are interested in the welfare of the c community, I recommend earnestly th Revere for the free, descriptive book the complete details of this Children'

SER

hese advertisements appear in The Saturday Evening Post, Nov. 20, 1943



"—which copper both protects and beautifies"

In addition to its social importance, the Children's Center or Nursery School outlined by Mr. Chermayeff on the page opposite is fascinating for its exciting use of modern techniques and materials. But significant also, is his telling use throughout of copper in many forms and many alloys. Particularly, he employs copper flashing on a broad scale, especially where it is exposed beyond the external walls and becomes the edging of the roof. This feature is clearly discernible in the illustration above. This coping is not only weather-protective—it adds a distinctive color note as copper takes on the beautiful patina of Time. Also illustrated are the bronze window frames.

The finish to the vertical face of the roof slab is also copper as is all other flashing and guttering. All plumbing is of copper and brass; in fact, the whole building insofar as its "vital functioning" is concerned, depends upon copper in some form or other.

Revere Products Are Standard

Revere copper and copper base alloys are everywhere recognized as standard for both new building and remodelling. They're specified for roofing, flashing, gutters, downspouts, weather stripping, termite-proofing. Ideal for non-rusting hot and cold water lines; heating and air conditioning lines; storage tanks; thresholds, window frames and the like. Revere copper, brass or bronze accessories add beauty inside and outside the house. It protects, preserves, perpetuates.

* * * *

With Victory won, Revere products will again be available for building. Meantime, we can start *today* to plan for *tomorrow*. If Revere's Technical Staff can help you in solving your building problems, please write our Executive Offices. No obligation, of course, and we shall do our best to help you.

BUY MORE WAR BONDS TODAY

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

Executive Offices: 230 Park Ave., New York 17, N.Y.



Richard M. Bennett examines Army water bag of Saflex-coated fabric. Pennsylvania-born, Ohio-nurtured, and Harvard-trained, he has been combining private practice with teaching at Yale and Vassar, has lately been interested in design of mass-distributed, mass-produced articles from furniture to bath fixtures and fittings.

FROM A SAFLEX ARMY WATER BAG . . . A COMPACT, ALL-PURPOSE BATH UNIT

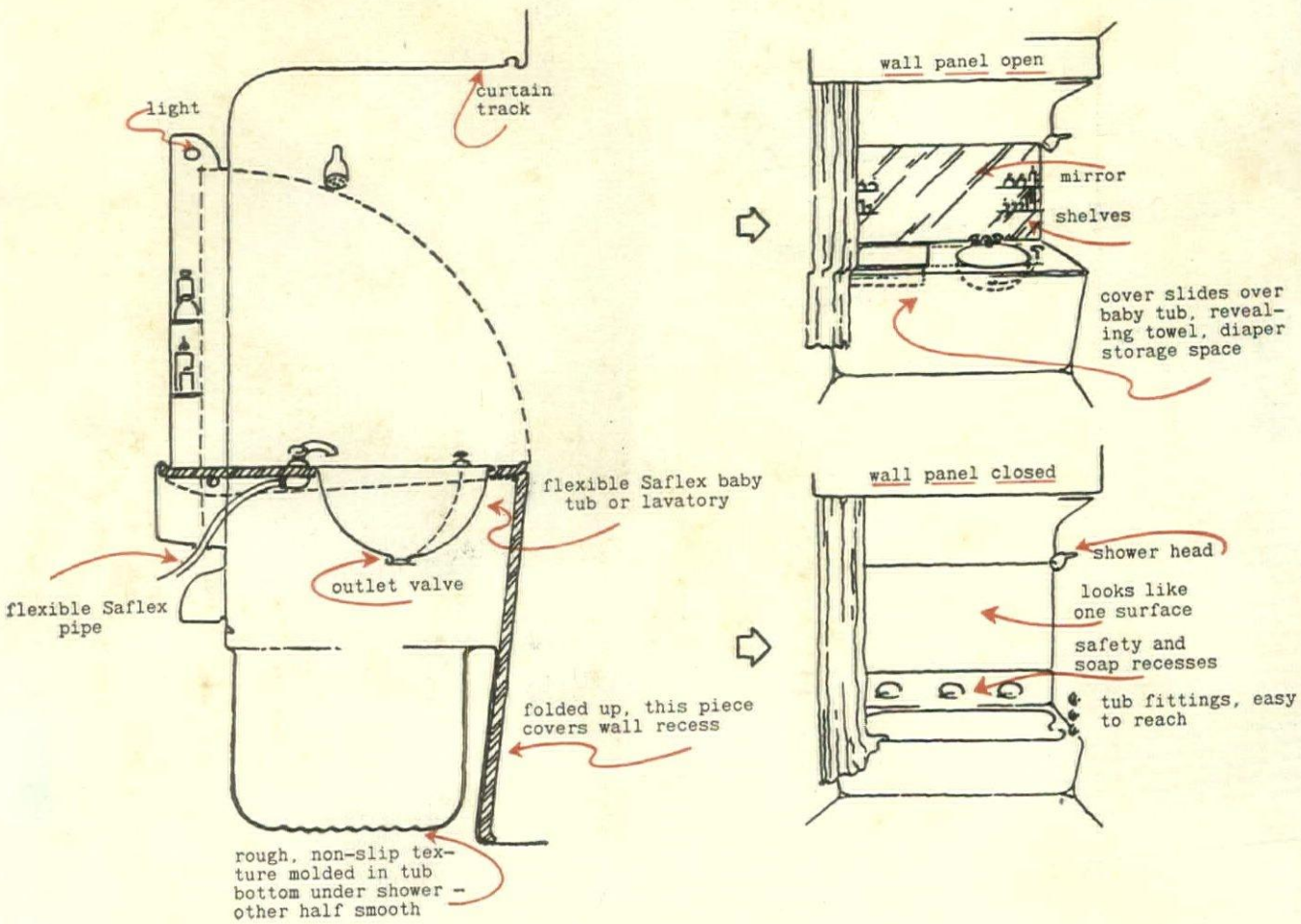
In working out his ideas for this work-and-space-saving bath unit, Architect Richard M. Bennett has taken ingenious advantage of several new war-born plastics materials and fabricating techniques.

His flexible baby bath (or washbasin) and its piping make use of Monsanto's Saflex*, the pre-war safety glass binder which was transformed almost overnight into the most rubber-like of modern plastics to fill the need for Army water bags and scores of similar items formerly made with rubber.

His vari-textured bath tub would be molded from amazingly strong but light-weight Resinox*-impregnated pulp—a development just barely out of the laboratory stage even now.

His wall sections and most of the folding lavatory unit would be equally light, strong Resinox-bonded plywood of the types so successfully used in today's aircraft.

Finally, the surfaces of his bath tub, walls and lavatory unit would incorporate Monsanto's newly developed melamine resins so that they could be any attractive, opaque color and would be hard, durable, resistant to alkalis and boiling water yet warmly pleasant to touch.



***The Broad and Versatile Family of Monsanto Plastics**

(Trade names designate Monsanto's exclusive formulations of these basic plastic materials)

LUSTRON (polystyrene) • SAFLEX (vinyl acetal) • NITRON (cellulose nitrate) • FIBESTOS (cellulose acetate) • OPALON (cast phenolic resin) RESINOX (phenolic compounds)

Sheets • Rods • Tubes • Molding Compounds • Castings • Vuepak Rigid Transparent Packaging Materials

MONSANTO PLASTICS

SERVING INDUSTRY...WHICH SERVES MANKIND

WRITE FOR FACTS ON PLASTICS

As a designer or as a sales or production executive, you may or may not be interested in the postwar bathroom. Whatever your business interests, however, you *will* want to know something about postwar plastics and their possible contributions to *your* products. That's why we suggest that you write today for the 24-page guide to Monsanto Plastics, probably the widest, most versatile group of plastics offered by any one manufacturer. Included are charts, graphs, data and many photographs to help you paint your own picture of the shape of things to come in your own particular line. MONSANTO CHEMICAL COMPANY, Plastics Division, Springfield, Massachusetts.

PNEUMATRONICS
BY JOHNSON



Pneu-ma-tron'-ics is a combination of the best in electronic circuits, coupled with pneumatic temperature control equipment developed by the Johnson Service Company.

Johnson Pneumatronic temperature control equipment has been in actual use in the field over three years and, for the duration, is available for a limited number of additional applications.

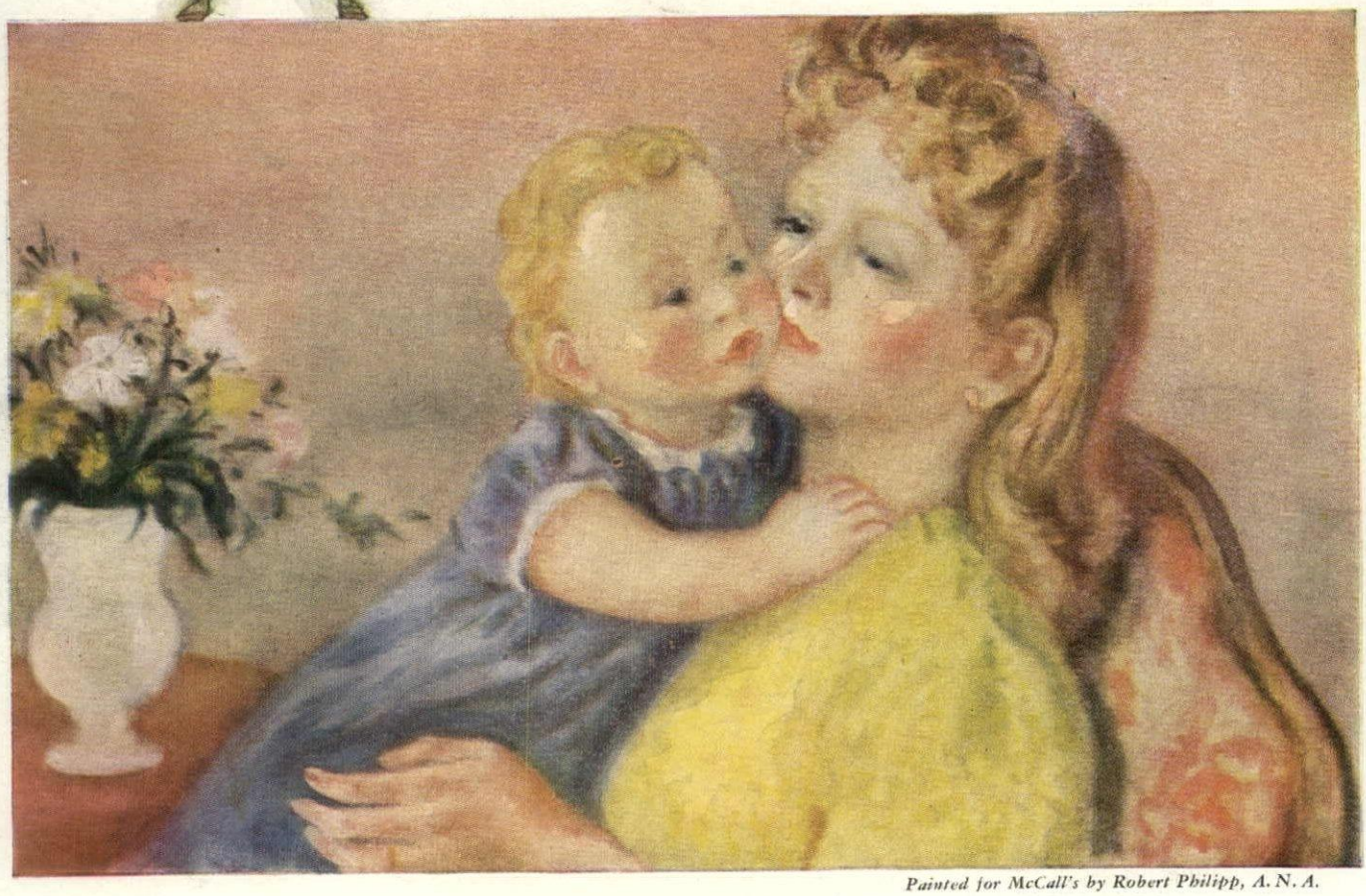
Most temperature control problems will continue to be solved best by standard Johnson pneumatic control systems. Pneumatronic principles, however, may be applied profitably to certain types of automatic temperature control problems in industries and in the control of steam and hot water heating systems.

PNEUMATRONICS JOHNSON SERVICE COMPANY, MILWAUKEE 2, WIS.
DIRECT BRANCHES IN ALL PRINCIPAL CITIES

AMERICA'S STRENGTH IN WAR AND PEACE—THE PARTNERSHIP OF MAN AND WOMAN



HE -defending the home



Painted for McCall's by Robert Philipp, A.N.A.

SHE -maintaining the home

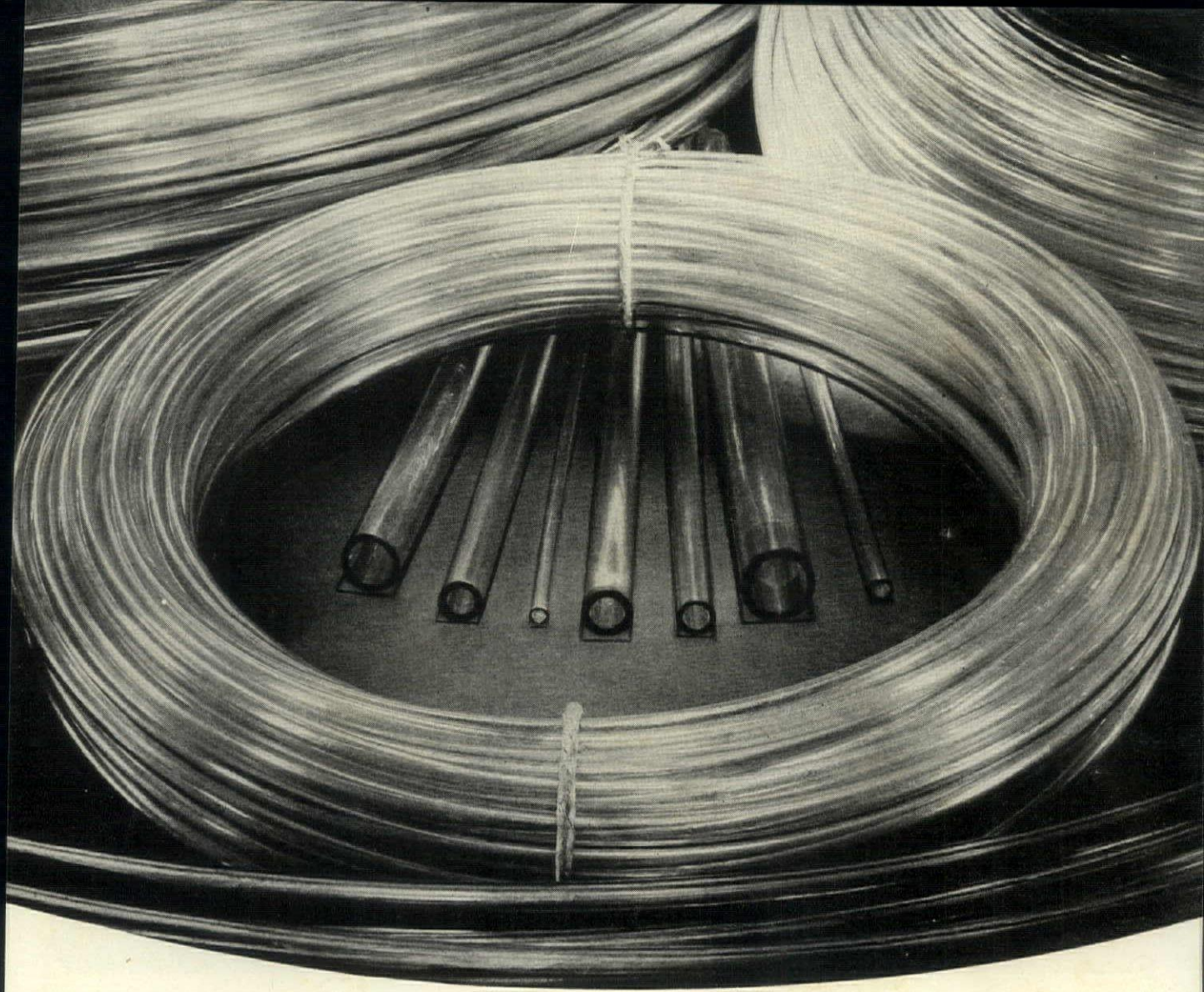
Because of their different roles in life, the thinking, behaviour, capacities and contributions of men and women must always be different. It is the welding of these separate interests into the great partnership that has made us strong and resourceful...that will make America endure!

Of all the people on earth the American man and woman are more markedly individual . . . in their interests and responsibilities. This is one of the reasons America is a great nation. It is one of the reasons that McCall's, a great magazine, is published and *read by one American woman out of every five.*

Because the American woman's interests and responsibilities are different from the man's, her reading interests are, obviously, different. In war as in peace, McCall's, *three magazines in one,* is attuned to the triple interests of the American woman—
Her Heart, Her Home, Herself.



Serving the special needs, interests and responsibilities of women



TENITE Tubing

SEAMLESS tubing of Tenite plastic in continuous lengths is now available in sizes up to and including two inches in diameter. Characterized by exceptional toughness and strength, Tenite is extruded into this virtually unbreakable tubing, which may be bent, formed, or curved to meet almost any condition. Tenite tubing lends itself easily to fabrication—it may be stamped, drilled, punched, and sawed. The ends may be adjusted to standard flared fittings or threaded with ordinary thread-cutting tools. No troublesome weld marks and joints are present.

Transparent Tenite tubing is widely used in the beverage-dispensing industry for pipes and tap-rods. Any obstructions that may occur in the line are thus easily located. Other applications of Tenite tubing include cooling coils for commercial refrigeration, drain tubes, machine fittings, fifes, conduits for airplanes, and siphons for irrigation projects.

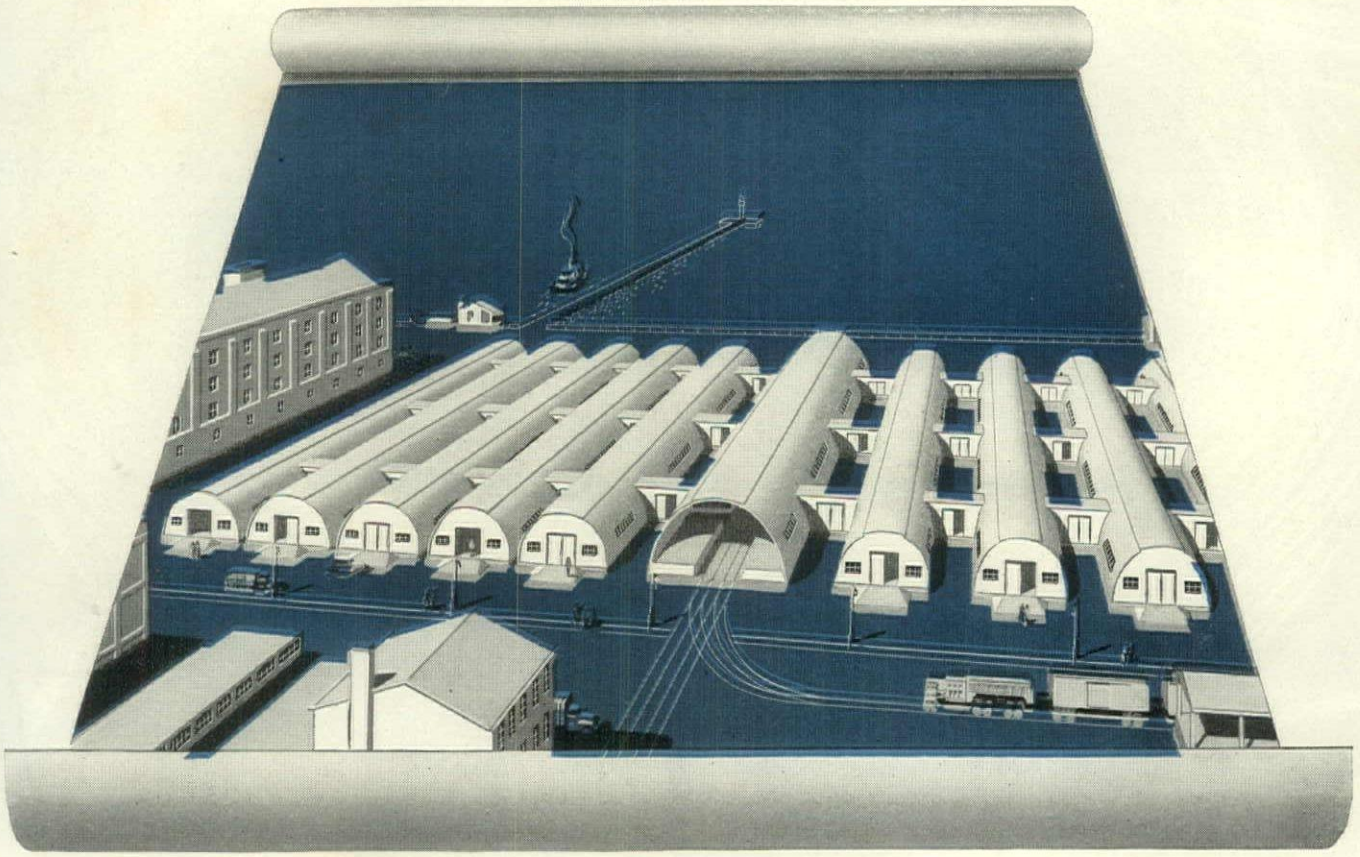
Tenite may also be injection- or compression-molded. It is available in an unlimited range of colors—transparent, translucent, and opaque. Its use and distribution are at present controlled by General Preference Order M-154 and Supplementary Allocation Order M-326-a. TENNESSEE EASTMAN CORPORATION (Subsidiary of Eastman Kodak Co.), KINGSPORT, TENN.

• • •

TENITE REPRESENTATIVES: *New York*, 10 East 40th Street. *Buffalo*, 1508 Rand Building. *Chicago*, 1564 Builders' Building. *Dayton, Ohio*, 305 Third National Building. *Detroit*, 904-5 Stephenson Bldg. *Leominster, Massachusetts*, 39 Main St. *Washington, D. C.*, 1125 Earle Bldg. . . . *Pacific Coast:* Wilson & Geo. Meyer & Company—*San Francisco*, 15th Floor, 333 Montgomery St., *Los Angeles*, 2461 Hunter St., *Seattle*, 1020 4th Ave., South.

An Eastman Plastic

EFFICIENCY FROM THE GROUND UP



There is little doubt that the high point of industrial efficiency achieved during these war years will prove an important holdover in the days of peace. Manufacturers will continue their emphasis on peak efficiency in every phase of their operations—including the very buildings in which their operations go forward.

Strip steel by Stran-Steel—expanding in scope and usefulness under the stress of war—fits ideally into this postwar picture. By virtue of its efficiency of design, economy in application and great versatility, it is destined to have an important place in the plans of designers who will help reshape industrial tomorrow.

Manufacturer of the U. S. Navy's Famous Quonset Hut

STRAN STEEL

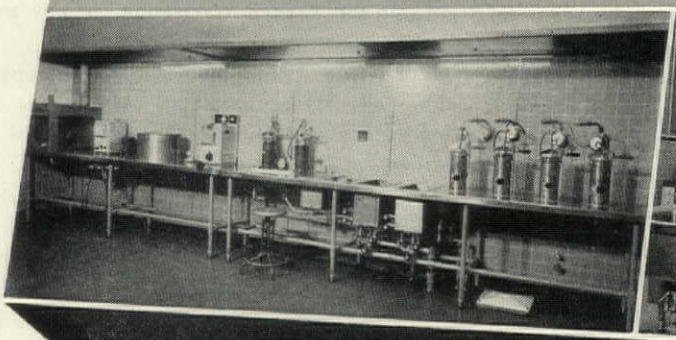
DIVISION OF GREAT LAKES STEEL CORPORATION
1130 PENOBSCOT BUILDING, DETROIT 26, MICHIGAN

UNIT OF NATIONAL STEEL CORPORATION

Marlite

GUARDING THE WALLS AT JEFFERSON BARRACKS!







ARMY AIR FORCE PHOTOS

Easy to Install, Clean: Large, wall-size Marlite panels are quickly installed with regular tools and in minimum time. Satin-smooth Marlite walls are easily kept free of dust and grindings from dental machines by occasional wipings with a damp cloth.

Durability and Utility: Prefinished Marlite (high heat bake finish to insure long life) eliminates painting after installation, as well as frequent and costly repainting. Pre-war and war installations in homes, business and industry prove overall adaptability.

'TENSHUN! It's Another Marlite Wartime Assignment!

SPECIFICATION: *A sanitary, durable, easily and quickly cleaned interior wall surface . . . moderate in price, attractive in appearance.*

INSTALLATION: *Dental Laboratory, Technical Training Command, Jefferson Barracks, Missouri.*

SELECTION: *Jade Green DeLuxe Marlite (Ivory Score) with Marlite rolled chrome molding.*

★ ★ ★

Yes—*score* another "brilliant" success for plastic-finished Marlite at Jefferson Barracks. War Construction opened its doors to a myriad of products. None have accumulated a more outstanding record for service than has Marlite. And from the achievements of TODAY come the promise of even better things TOMORROW, for Marlite is on the march . . . ahead!

PROPER POSTWAR PLANNING . . . When planning with your clients (home, commercial or industrial) remember Marlite war housing, government building, army camp, industrial plant, fighting ship and service club installations! Together with prewar jobs, they promise practical, economical, colorful and durable interior walls in the homes, commercial and industrial buildings, stores, restaurants, cocktail lounges, hotels, theaters and hospitals you're planning for Tomorrow.

READY FOR YOU . . . a descriptive, colorful catalog is available to acquaint you more thoroughly with Marlite plain-colors, tile-patterns, horizontaline, genuine wood-veneers, marble-patterns and the complete selection of matching moldings. Or see Sweet's, section 27! Remember, too, Marsh Engineers are at your service at all times.

Marlite

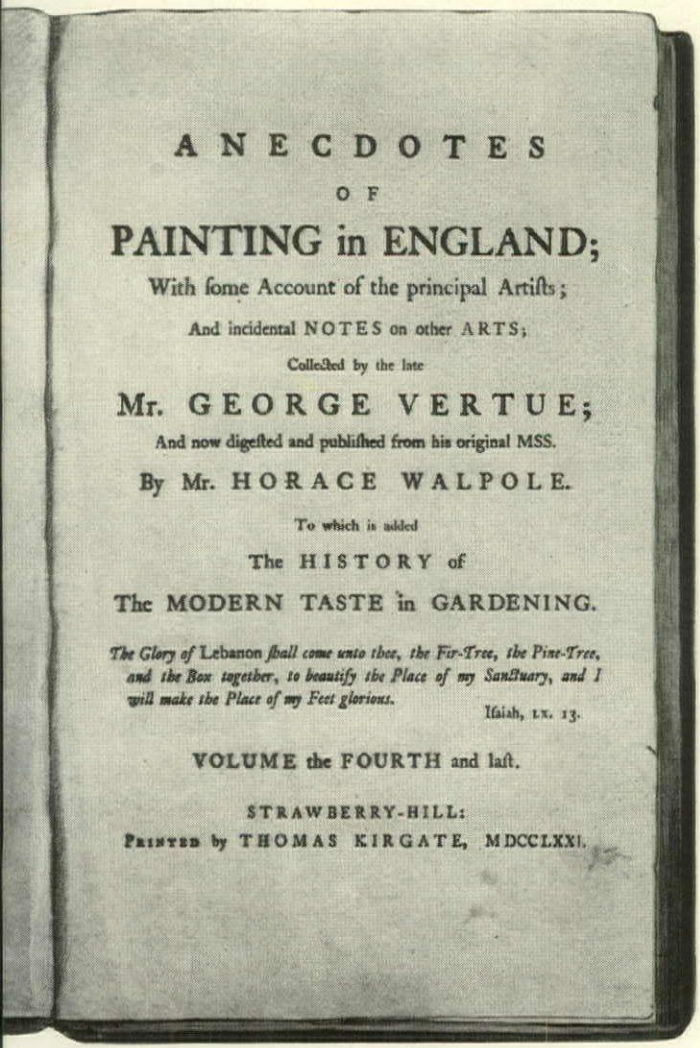
REG. U. S. PAT. OFF.

duty-ful for creating ~~beautiful~~ interiors

PLASTIC-FINISHED WALL PANELS

MARSH WALL PRODUCTS, INC. 1051 MAIN STREET, DOVER, OHIO

BOOKS



ANECDOTES

OF

PAINTING in ENGLAND;

With ſome Account of the principal Artiſts;

And incidental NOTES on other ARTS;

Collected by the late

Mr. GEORGE VERTUE;

And now digeſted and publiſhed from his original MSS.

By Mr. HORACE WALPOLE.

To which is added

The HISTORY of

The MODERN TASTE in GARDENING.

The Glory of Lebanon *ſhall come unto thee, the Fir-Tree, the Pine-Tree, and the Box together, to beautify the Place of my Sanctuary, and I will make the Place of my Feet glorious.*

Iſaiah, LX. 13.

VOLUME the FOURTH and laſt.

STRAWBERRY-HILL:

PRINTED by THOMAS KIRGATE, MDCCLXXI.

FIRST EDITION of Walpole's essay on gardening was published in 1771. The 1943 edition is still timely in essence and theory.

HORACE WALPOLE: GARDENIST. By Isabel Wakelin Urban Chase. Princeton University Press, Princeton, N. J. 260 pp. 6 x 9. Illustrated, 10 plates. $3.50.

At a time when landscape gardening is being threatened with changes as drastic as those which have overtaken architecture during the past twenty years, the appearance of a book which deals with the inception and development of our present traditional school of landscape design has not only a timely interest but should prove enlightening for the evaluation of the current trends.

In practice it has been customary for English history to subordinate landscape architecture to the somewhat more parlorized development of her sister arts, painting and poetry, during the eighteenth century. As a scholar of English literature and a professional landscape designer, the author has been doubly aware of this neglect and equally captivated by the kinship between gardening and literature since the early ages. To fill the breach she selected Horace Walpole's perceptive and colorful essay, "*The History of Modern Taste in Gardening*" as a nucleus.

Walpole himself, typically a fashionable young man of the eighteenth century, is best known as an art collector and critic and the owner of Strawberry Hill, the estate where many important literary works of the time were printed. During his life the three arts and their development were conceded to be inseparable. It was the influence of Addison and Pope, Claude Lorrain, and other contemporary poets and artists which resulted in the "romantic wilderness" in landscape design; the traditional school carried on into the twentieth century under such men as Eliot and Olmstead. It was this same interrelationship of the arts which dictated the original publication of "*The History of the Modern Taste in Gardening*" as a part of "*Anecdotes of Painting in England.*" Except for the French translation, it was not printed as an individual work until 1931.

To the original text Mrs. Chase has added a thorough but spirited background of the times and an analysis of Walpole's views on gardening fortified by descriptions of a few significant gardens of the period.

The advent of the English romantic garden in the eighteenth century marked the first stage of an entirely new concept of beauty and appreciation of the exterior world. It was a natural reaction to the neo-classic symmetry of the formal garden in England and, typical of any revolution in taste, it was in many instances carried to ridiculous extremes. There were three phases in the development of the new taste in gardening, 1) the literal imitation of nature lacking in artistic conception, 2) the imitation of such landscape painters as Poussin, Rosa and Lorrain, 3) the experiments and developments of Walpole and his fellow essayists which culminated in the theory of asymmetrical gardening based on the principles of natural beauty. Simultaneously with the new concept of landscape design came a fresh original style of poetry based on the observation of nature.

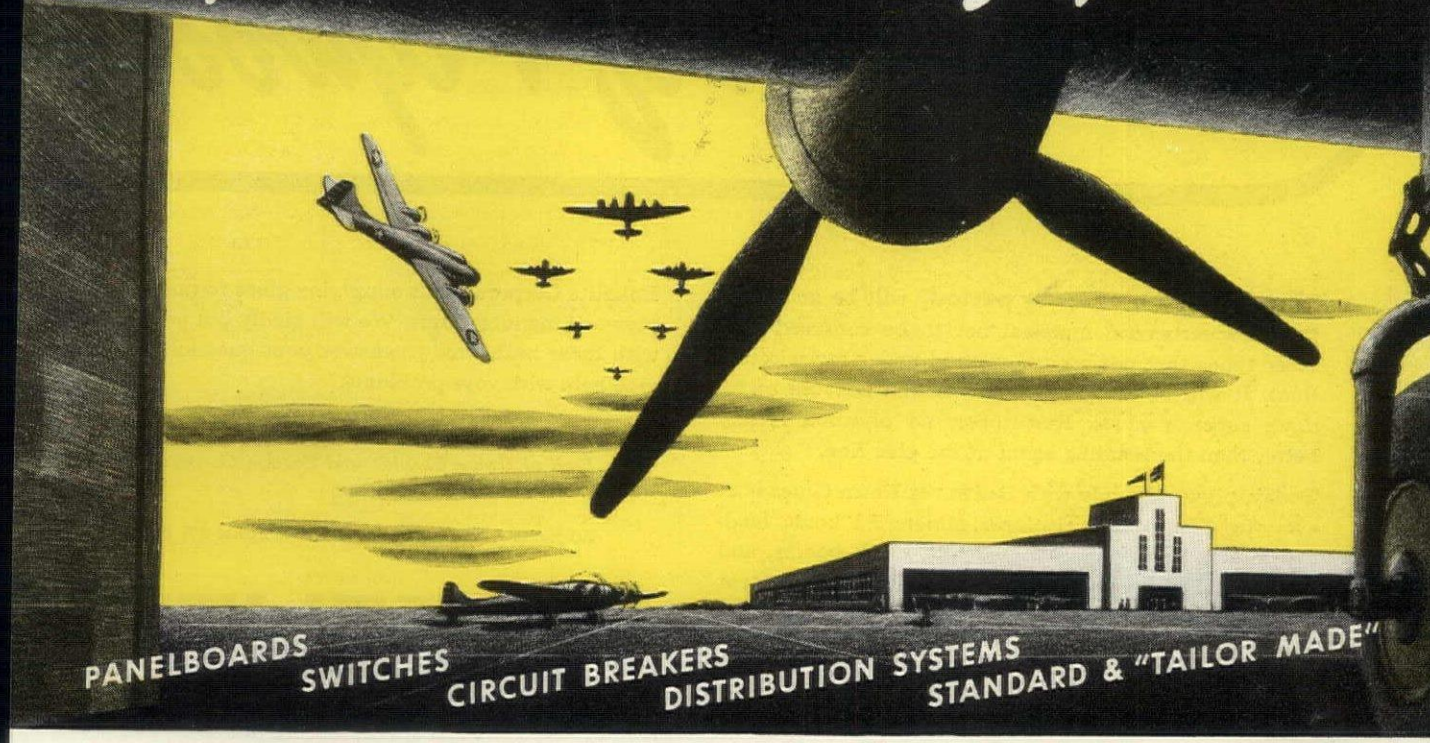
Rationalizing the outgrowth of neo-classic taste, Mrs. Chase clearly illustrates the universal artistic trend which brought about the revolution:

"As long as this concept of nature remained acceptable, the conventional language of nature in poetry, the 'grand style' in painting, and the formal garden endured; but as soon as the cultivated gentleman of the eighteenth century, awakened by travel, by the study of Italian painting, and by the new ideas from China, began to examine nature for himself, a shift in the meaning of the term began. For if one observes the external landscape, one finds that the principle of irregularity is even more characteristic than that of regularity; that scenes in nature are free from patterns; that nature is wild and characterized by 'inexhaustible diversity'. As soon as this other aspect of reality is recognized, as it was for the first time by 'the man of taste', (and immediately by him accepted to the exclusion of any other aspect), it becomes obvious that symmetry is unnatural: simplicity then becomes associated with informality, and nature becomes synonymous with the asymmetrical. At once a new theory of gardening begins to emerge from neo-classic doctrine, just as surely as a new poetry or a new school of painting."

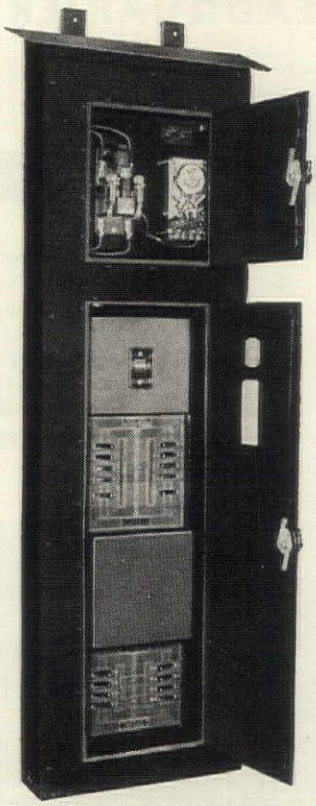
Though Walpole was an ardent patron of the new school of taste, most to his credit was his refusal to be carried away by it. His criticism of the classic garden, typified

(Continued on page 130)

Airport Electrical Equipment



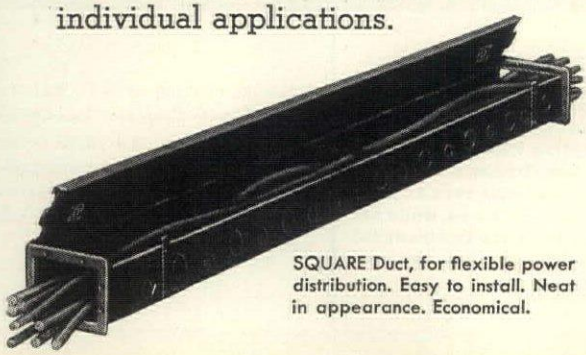
PANELBOARDS SWITCHES CIRCUIT BREAKERS DISTRIBUTION SYSTEMS STANDARD & "TAILOR MADE"



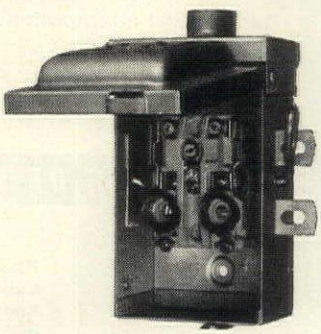
Basic airport control panel, an example of Square D tailor-made equipment. Provides automatic timing feature and remote control.

WHEN airport designs approach the blueprint stage—that is the time to call in a Square D Field Engineer. His counsel can be most helpful in arriving at the right specifications for your electrical control and distribution equipment.

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Plywood in the postwar period, will be an important new structural material not to be confused with older types that peeled and warped under moist conditions. It will be stronger, finer material because of today's superior glues. Remember, no plywood is any better than the bonding agent at the glue line.

Today, plywood made with BAKELITE Resin Glues is at every fighting front in airplanes, gliders, PT boats, landing barges, Victory Ship bulkheads, truck bodies, and hutments. These glues are meeting rigid government specifications—and are proving themselves in action.

Know the different types of plywood—what they are, where they should, and should not, be used. Then, when it becomes available, specify plywood from a reliable manufacturer... and specify BAKELITE Resin Glues to protect that all-important glue line.

Bakelite Corporation is supplying glues to many leading plywood manufacturers. We will gladly put you in touch with those best fitted to answer your questions and provide help with your problems.

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PLASTICS HEADQUARTERS

TYPES OF PLYWOOD

1. UREA *Water-Resistant* PLYWOOD
For Interior Service

Plywood has always been a good building material, but one that has had certain faults, such as delaminating and warping under extreme moist conditions. Now BAKELITE Urea Bonding has retained all the good characteristics, such as economy and ease-of-use . . . and adds greater strength, and far more durability.

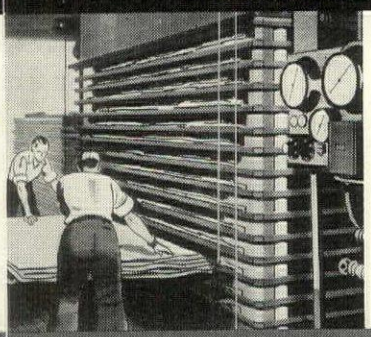
2. PHENOL *Waterproof* PLYWOOD
For Exterior Service

BAKELITE Phenol Resin Glue produces a plywood bond unequalled by any other type of glue. Developed especially for *exterior* use, Bakelite Phenol-bonded plywood has become a useful structural material that is economical and easy to use, while offering the ultimate in strength, and resistance to weathering and aging.

3. MOLDED PLYWOOD

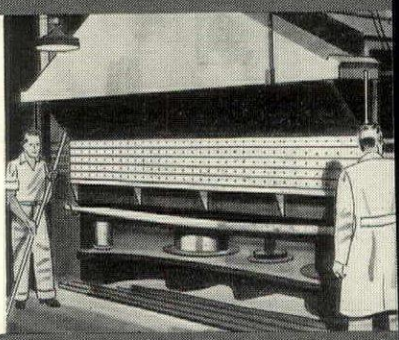
Molded plywood is a comparatively new development that holds great promise for the future. Because this new technique makes possible the curving of plywood—even into compound shapes—it extends all the plywood advantages of weight, strength, and economy to huge new fields.

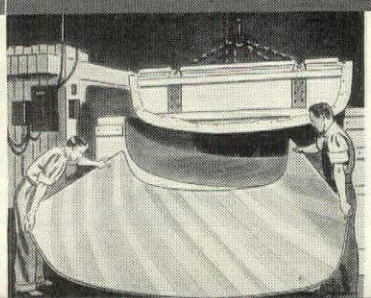
HOW THEY ARE MADE



Thin veneers of wood are spread with BAKELITE Urea Resin Glue, then assembled with each adjacent layer at cross grain. This assembly is pressed to a smooth, strong plywood panel. To save production time, many manufacturers use a hot press, to form the panel under both heat and pressure.

Veneers coated with BAKELITE Phenol Resin Glue are "laid up" at cross grain, then placed in a hot press, where, under heat and pressure, they are formed into a waterproof, fire-resistant plywood panel, with a fungus-proof glue line.





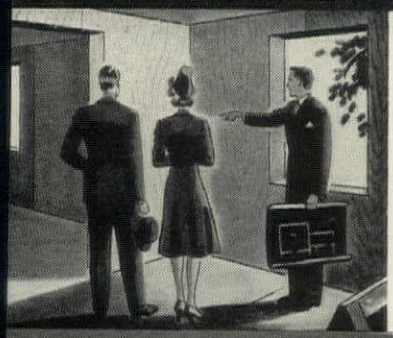
There are several methods of producing molded plywood shapes bonded with BAKELITE Phenol Resin Glue. Essentially, all of them involve the laying up of veneers in diagonal strips over or within a form, after which low fluid pressure and controlled temperatures are applied, which force the plywood assembly to the exact contour of the mold and "sets" the glue.

"BAKELITE" RESIN GLUES

GUARD THE ALL-IMPORTANT GLUE LINE

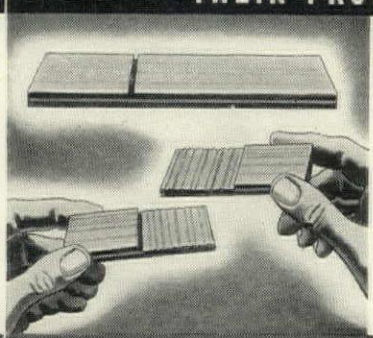


THEIR USES



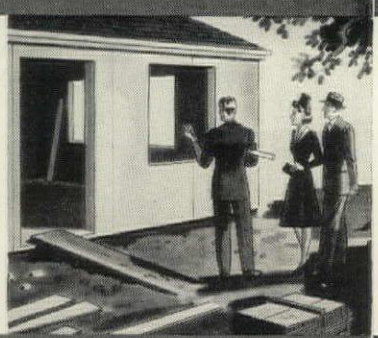
Doors, window trim, walls, ceilings, cabinets are but a few of the uses already found for plywood bonded with BAKELITE Urea Resin Glue. Briefly, it does all the jobs that have always been done with old-fashioned plywood, made with inferior glues. And it does them better at equal or lower cost.

THEIR PROPERTIES



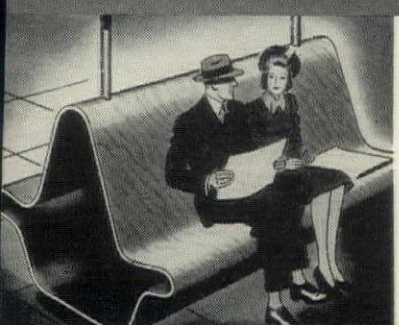
Plywood bonded with BAKELITE Urea Resin Glue is recommended for practically any *interior* use. It has good "wet-strength" and excellent "dry-strength." It is extremely low in cost, yet the bond is stronger than the wood itself, and remains so even though the plywood panel is subjected to long periods at high humidity.

Proved by today's uses in airplane and glider wings, in PT boats and as bulkheads for Victory Ships, BAKELITE Phenol-bonded plywood will find wide use after the war as sheathing, subroofing, subflooring, and exterior walls. It fills practically any application where strength, weathering, and aging requirements are extreme.

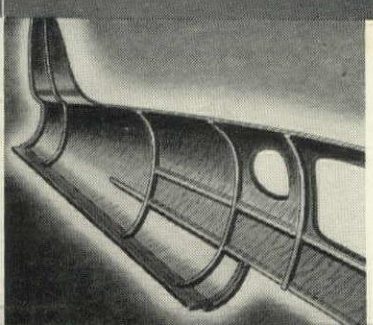


BAKELITE Phenol-bonded plywood has a glue line of great mechanical strength and resistance to aging under extreme temperature and humid conditions. Exposure tests . . . soaking in water, weathering, burial in the ground . . . demonstrate the unusual durability of this Phenol-bonded plywood.





Today, plywood molded with BAKELITE Phenol Resin Glue is used in aircraft wings, fuselages, and other sections, curved sections as large as 84 feet have been molded for PT boats. After the war, it promises to form light, strong kitchen cabinets, public benches, lighting troughs, store fronts, display cabinets, elevator cabs, and many other units.



Plywood molded with BAKELITE Phenol Resin glue is durable, weather-proof, and water-proof. It can be formed to practically any size or shape. It has all the outstanding characteristics of phenol bonded plywood, plus many advantages in strength and weight obtained through curved design.







Largest Plant in the World installs fixtures by ELJER

Into this war plant, one of the world's largest, recently built near Chicago, have gone 1,000 Eljer lavatories, 1,500 special type Eljer closets, and several hundred Eljer china sinks.

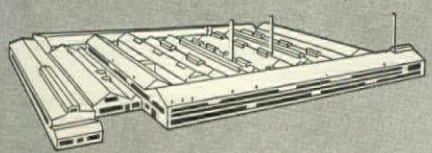
American industry recognizes the morale and sanitation values of adequate, modern plumbing facilities. Eljer is proud to be a quality supplier in this field.

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This plant was built under the direction of Albert Kahn, Associated Architects and Engineers, Inc., of Detroit.



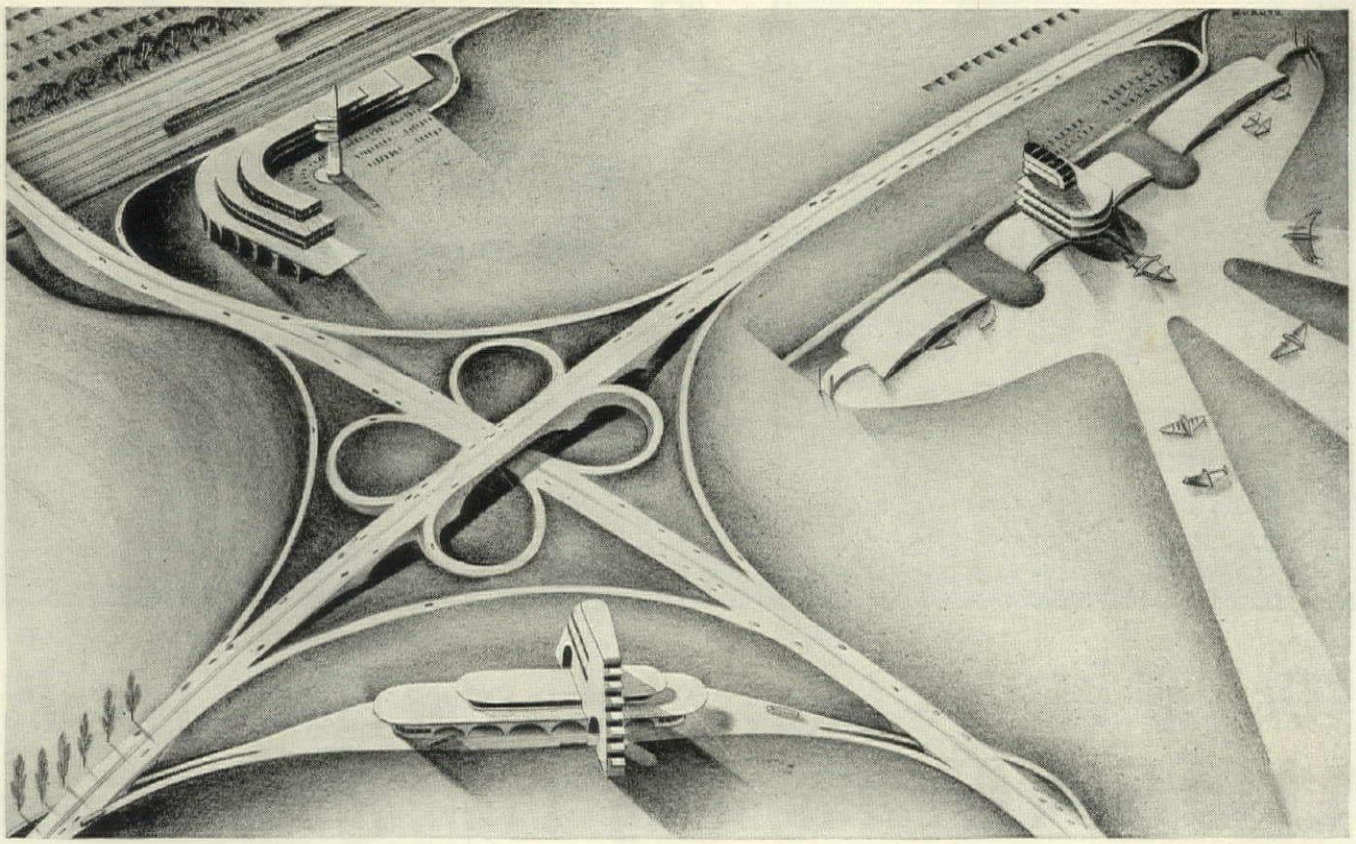


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To the Men Who Are Planning the Future

HIGHWAYS, BRIDGES AND AIRPORTS

Architects and engineers have a big job ahead. Neglected roads abused by war traffic must be rebuilt. New super-highways, elevated and express with grade separation, will be needed. New and larger airports are in the picture, with coordination of highway, rail, air and water facilities. Old bridges must be strengthened or rebuilt and new ones erected.

You, the men who are planning and will build these projects, have many materials from which to choose—each with its definite qualities. And among them is STEEL—always *dependable—which provides a combination of qualities found in no other material.*

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And steel will be even better in the future. Out of Republic's increasing research are coming new developments. From wartime performance is coming new knowledge of steels. These are being combined with Republic's experience acquired during years of contact with the construction industry to provide you with finer steels and steel products than ever before.

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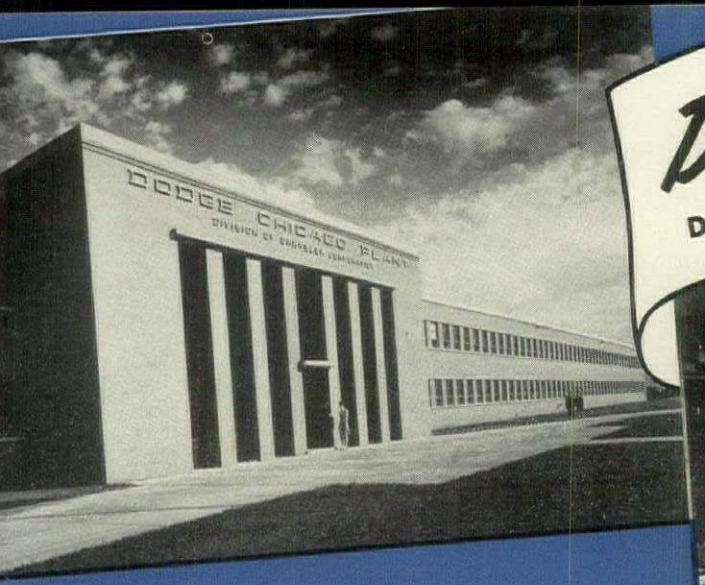
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REPUBLIC STEEL — PRODUCTION FOR VICTORY

Republic

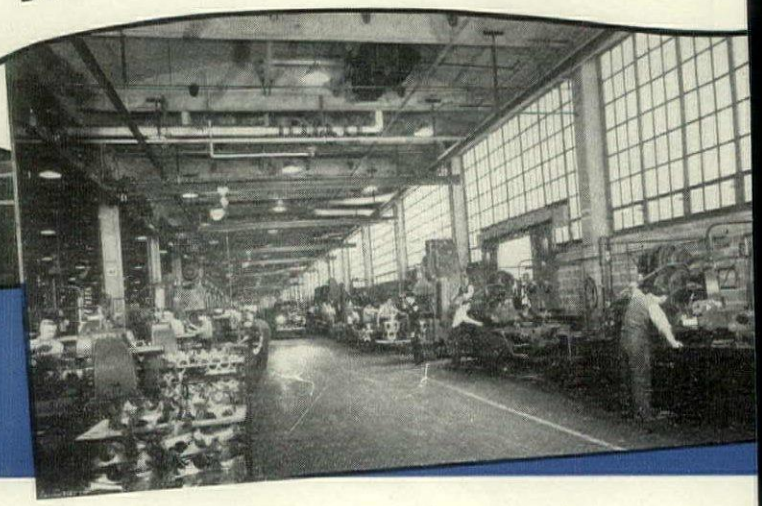
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Pipe, Sheets, Plates and Roofing in Steel, U-Loy Copper-Bearing Steel and Toncan Iron • Enduro Stainless Steel • Toncan Enameling Iron • Taylor Roofing Ternes • Electrunite Steeltubes (E. M. T.) • Fretz-Moon Rigid Conduit • Steel Shingles • Steel Siding • Upson Bolts, Nuts and Rivets • Wire Nails • Metal Lath • Concrete Reinforcing Materials • Toncan Iron Corrugated Pipe, Sectional Plate Pipe and Arches • Berger Lockers, Bins, Shelving • Truscon Steel Windows, Doors, Joists, Steeldeck Roofs and other fabricated building products.



Dodge Chicago Plant

DIVISION OF CHRYSLER CORPORATION



TOP — EXTERIOR VIEW OF MAIN BUILDING • RIGHT — INTERIOR VIEW OF MAIN BUILDING

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SOME OF THE JOSAM PRODUCTS USED IN THE MAMMOTH DODGE CHICAGO PLANT:

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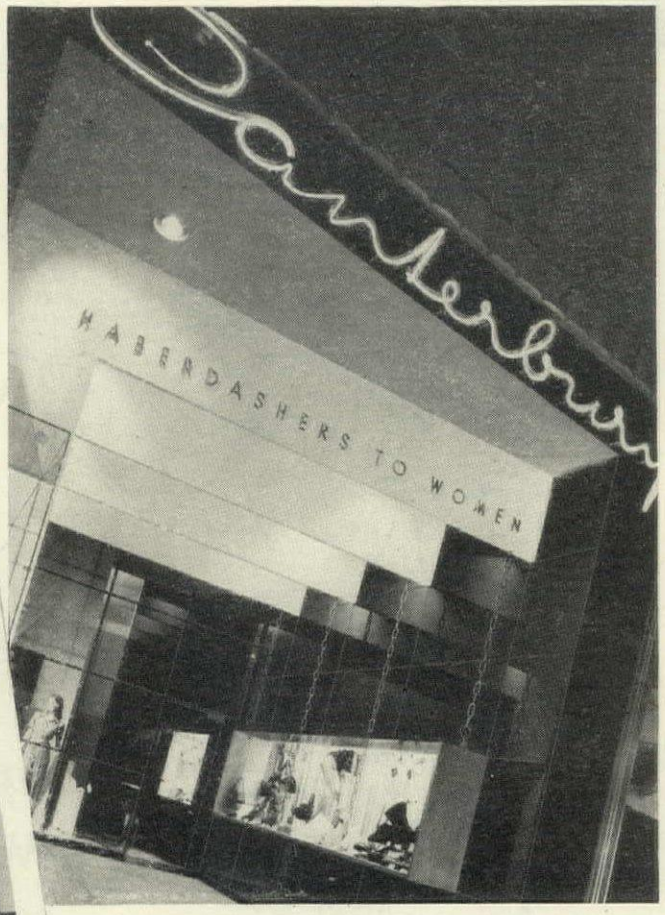
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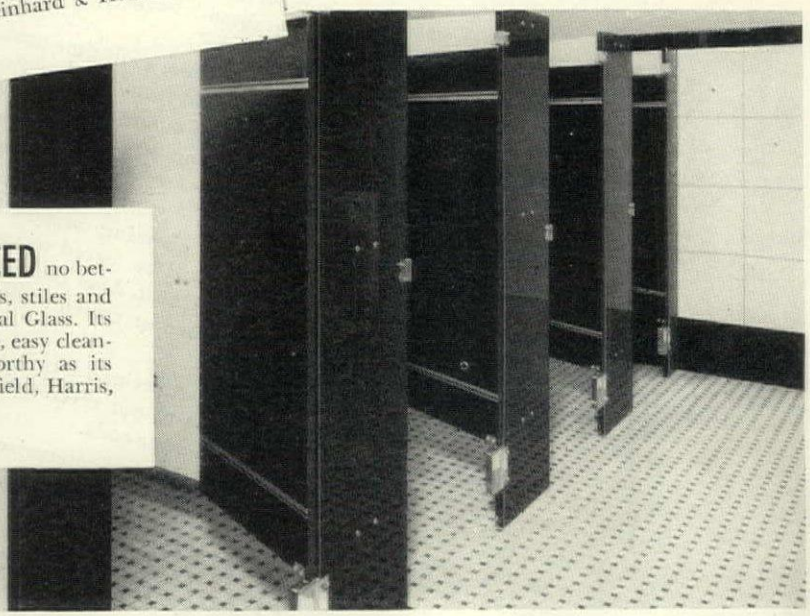
NEWS ABOUT GLASS from "Pittsburgh"





TRANSPARENT STAIR RAILS of Herculite Plate Glass offer new design possibilities both in public building and residential interiors. Herculite Glass is tempered to give it approximately 4 times the strength and 6 times the impact resistance of normal plate glass. Architects: Reinhard & Hofmeister and Harrison & Fouilhoux.

FOR YOUR STORE FRONT FILE. The design possibilities of glass in store front work are well illustrated by this handsome Pittco Store Front, designed by Gruenbaum and Krummeck. When building restrictions are lifted, Pittco Products will serve you better than ever in the widespread store modernization which is expected.



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"PITTSBURGH" stands for Quality Glass and Paint



"If American business wants immediate postwar construction, American business must plan now!"

Statement by FREDERIC C. CRAWFORD
President, National Association of Manufacturers

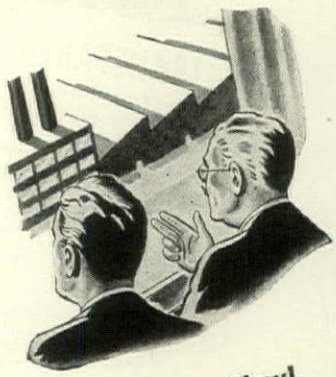
"WHILE winning the war is our number one job, it doesn't mean that postwar construction planning should be last on our list of things to do today.

"You, your company or your community need not make a full-time project of what's needed in the way of new or remodeled factories, buildings, homes or entire urban areas. There are plenty of competent men available for this . . . highly trained architects and engineers . . . who need only the expression of your thoughts *and the go-ahead* to do the heavy thinking and pencil work for you.

"Unless American business recognizes this planning responsibility immediately, the Federal Government again will be forced to institute large public works programs to sustain employment. After the armistice, private business cannot immediately absorb ten or eleven million war veterans and twenty million war workers.

"But if you start construction planning *now*, America's No. 1 industry, the Building Profession, alone will be able to put seven-and-one-half million workers into building jobs when the war ends.

"One of the big things we're fighting for today is free enterprise. Exercise a little of it toward planning today, so that tomorrow it may continue uninterrupted."



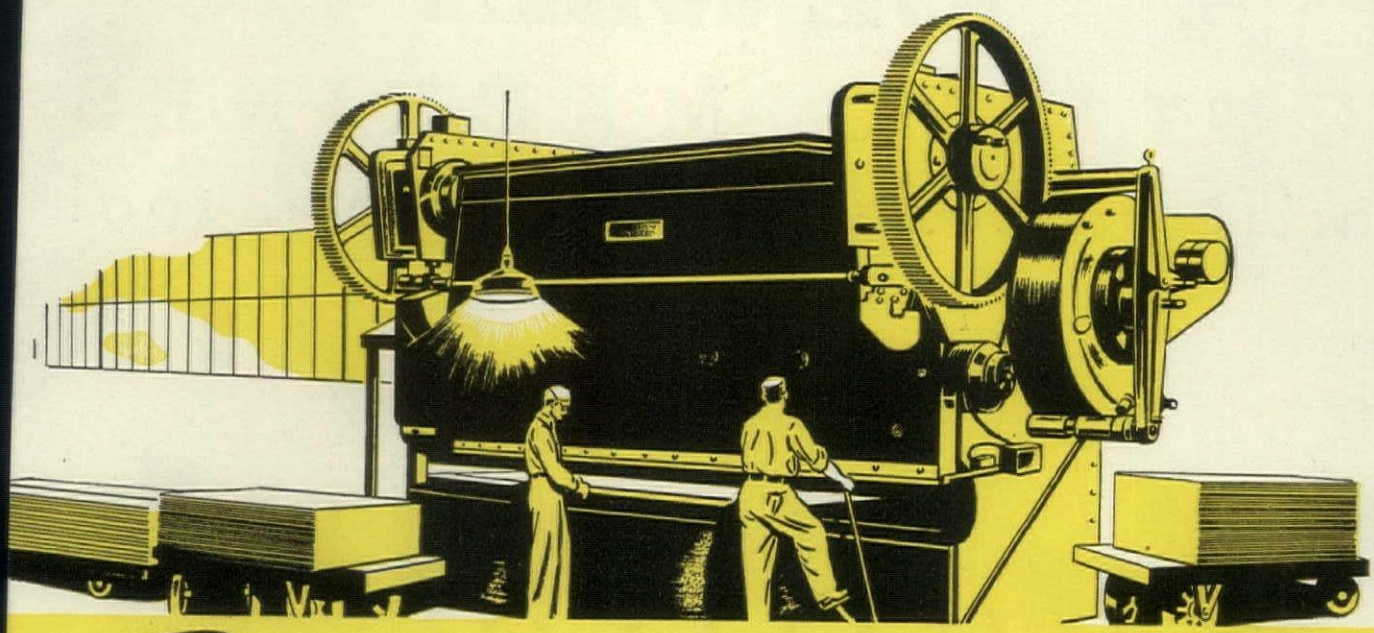
Plan Needs Now!

Building or rebuilding the needs of your factory, community or home is not a one-day job. If you want immediate postwar construction you must let your architect or engineer start visualizing and planning today. Call him now!

TRUSCON STEEL COMPANY, Youngstown, Ohio

SUBSIDIARY OF REPUBLIC STEEL CORPORATION

Truscon's facilities at present are devoted Exclusively to the production of War Materiel . . . . .



• But

TRUSCON IS URGING BUSINESS LEADERS TO START POSTWAR PLANNING Now!

TRUSCON is spurring the thinking men of America into immediate realization of their postwar planning responsibilities.

Through the pages of Business Week, Modern Industry, New Pencil Points and Architectural Forum, Truscon is delivering strong, sincere messages sponsored by America's best-known business leaders.

Hundreds of thousands of executives in industry; public officials; banks, holding companies; real estate operators and owners; and others responsible for tomorrow's construction, are being urged to begin planning today with you and your men on the projects that America needs after the war.

Truscon plans call for more action in building planning . . . and for new and better Truscon Steel Products to help you build these structures when the war is over.

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DeWALT

CUTTING MACHINES

will *custom-cut* tomorrow, too!



Long before prefabrication methods obtained widespread attention, DeWalt Cutting Machines had been *custom-cutting* lumber with a precision and accuracy heretofore unknown. That is why experienced DeWalt engineers were called upon to help lay out production cutting lines for the urgent program of building training stations, cantonments, hospitals and other service buildings. In the vast building program that is to come in the peace-time tomorrow, DeWalt will still be on the job, *custom-cutting* with speed and precision, saving many man hours and increasing efficiency.

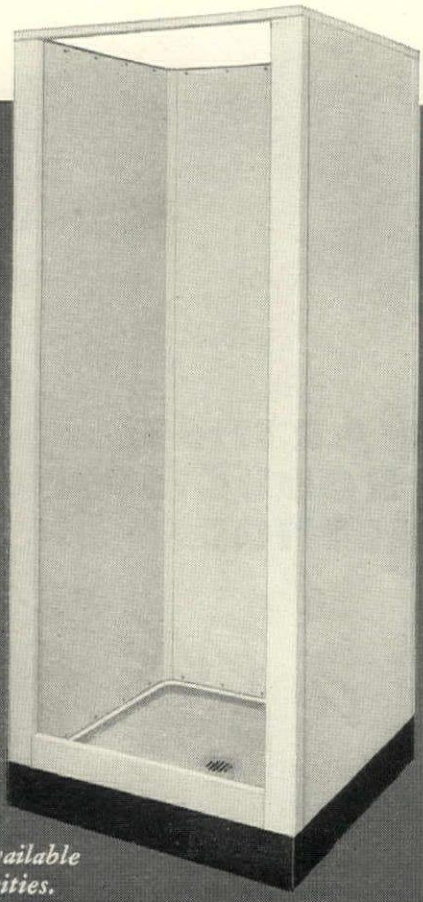
DeWALT PRODUCTS CORPORATION

Lancaster, Pennsylvania

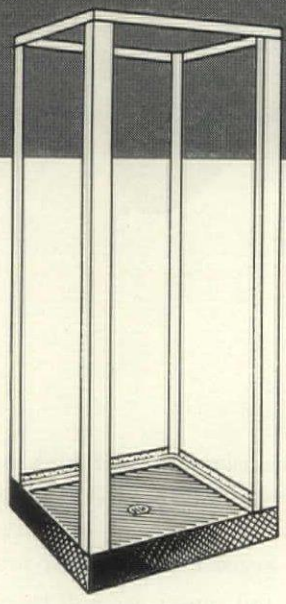
FIAT'S *Volunteer*

SHOWER CABINET

The Volunteer structural features, originated by Fiat and accepted by government engineers, are the adopted standards of war shower construction.



Immediately available on low priorities.



WALL PANELS

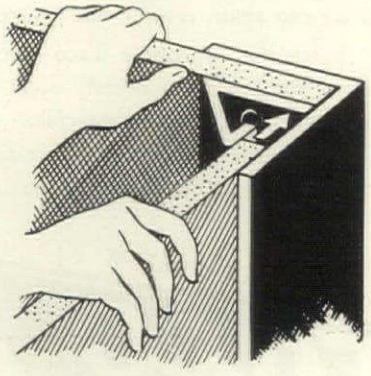
Tempered, hard pressed treated fibre-board, conforming to Federal Specifications LLL-F-311, Class B. Coated inside and out with waterproof baked-on enamel.

STEEL FRAME

The steel frame of the Volunteer is designed to use a minimum of critical war material and still retain the structural strength and rigidity essential to sound shower cabinet construction.

RECEPTOR

The standard Fiat pre-cast, slipproof receptor is used to insure a watertight base and a firm foundation for the walls and frame.



TENSION LOCKING JOINT

A patented Fiat feature. This steel corner joint is formed to obtain maximum strength. Fastened permanently to the back wall at the factory, the tension rib allows the side wall panel to be snapped into position and secured watertight without further screw fastening on the job.

REAL FACTORY PREFABRICATION

All parts of the metal frame, except the one piece top, are permanently attached to the wall panels at the factory. This prefabrication makes the Volunteer the fastest erecting of all war showers. (Only 18 minutes for complete assembly by one workman.)

Write for Volunteer Bulletin V-100



FIAT METAL MANUFACTURING CO.
1205 Roscoe Street, Chicago 13, Illinois
21-45 Borden Ave., Long Island City 1, N. Y.
32 So. San Gabriel Blvd., Pasadena 8, California



WARTIME PRODUCTION METHODS *a Peacetime Heritage*

Our "bit" for Victory has taken the form of manufacturing machine-gun mounts for U. S. Navy aircraft. We have continued to manufacture heaters and warm water heating specialties for the Maritime Commission, Army and Navy hospitals, laundries and bakeries and other essential Government and industrial projects.

Making machine-gun mounts is precision work of high order. It demands machines of extreme accuracy, workers of advanced skill. Many such machines have been added to our equipment. And our staff of workers—enlarged to about triple our peacetime force—is keyed to the highest precision standards.

This precision equipment, training and experience will become an invaluable heritage when the war is over and we can again resume our normal operations.

It will mean that the intricate parts that comprise Taco circulators, flow checks, relief valves, reducing valves, etc., will not merely meet their former high standards, but will all be made with that extreme precision demanded in Navy machine-gun mounts. It will mean that the Taco organization will have retained to the fullest its habits of working to close tolerances.

PRIORITIES NOTE

There has been a slight liberalization in government restrictions on the manufacture of heaters of copper tubing for essential civilian use. If you are in the market for a water heater of the most modern type, consult Taco wholesalers or write us for information on the latest procedures to follow in complying with W.P.B. regulations.



TACO HEATERS, INC., 342 MADISON AVE., NEW YORK 17, N. Y.
TACO HEATERS of CANADA, LTD., 24 ADELAIDE ST. W, TORONTO

This book will save you many hours . . .



• • • It's the *new* edition of the Westinghouse LIGHTING HANDBOOK, prepared for architects, engineers and industrial designers.

Today, when time is more precious than ever, you'll appreciate the many hours it will save you in preparing lighting layouts and designing installations.

Its 175 pages of lighting tables, formulae and sketches are up-to-the-minute, practical, presented in simplified form for quick reference. Order a copy today, price $1.

Some chapter headings: Lighting Terms and Measurements—Recommended Levels of Illumination—Modern Light Sources—Interior Lighting Design Calculations.

Additional chapters on lighting for: Stores, Offices, Schools, Public Buildings; Airports, Streets and Highways; Industrial and Architectural Lighting.

Mail this Coupon Today

Westinghouse Electric & Manufacturing Company
Lamp Division, Bloomfield, N. J.

Enclosed find $1.00 for "LIGHTING HANDBOOK."

Name. . . . . .

Address. . . . . .

Firm Name and Address. . . . . .

F 12

Westinghouse

MAZDA LAMPS

FOR SEE-ABILITY

LETTERS

A request for a lot of information and a letter furnishing some . . . G. I. humor from a former staff member . . . a greeting from Russia.

TALL ORDER

Forum:

I would greatly appreciate your sending me any material you have available that would deal with the future in any way.

R. FALKENHEIM

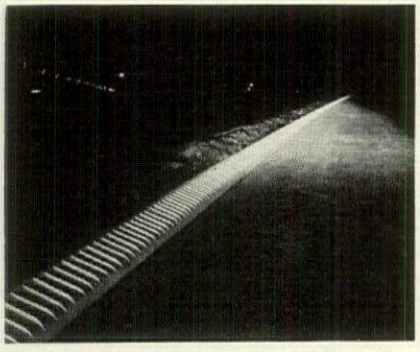
Monroe High School
Rochester 7, N. Y.

REFLECTING FACES

Forum:

I noted with interest the article in the October, 1943, issue on "Street and Highway Lighting for 194X," by Richard C. Engelken.

You may be interested in the attached book* which describes a reflecting curb that is especially designed to make the driver's headlights more effective. Since headlight beams hit a flat surface, such as a curb at a flat angle, they reflect most of the light forward, away from the driver. Hence visibility is almost nil no matter how good the headlights. By building into the curb a series of reflecting faces normal to the headlight rays, this wasted light is conserved.



Safety Curb

These reflecting faces reflect the light back to the driver and therefore make the curb (or traffic marker) highly visible. . . .

. . . It is of interest to note that while this idea originated in New Jersey, it has since spread to seventeen states. Currently Pennsylvania has installed this type of reflecting curb on several strategic military highways and plans to use it extensively on non-military roads when the construction ban is lifted.

MAX A. BERNS

Universal Atlas Cement Co.
New York, N. Y.

**A White Guide to Safety*, Universal Atlas Cement Co.

APTITUDE 140

Forum:

By a recent concerted act of God and the Corps of Engineers, your erstwhile assistant was transformed from a "combat" into an "airborne" soldier. This metamorphosis took me from Fort A. to Field B., and was aided and abetted by the N.Y.N.H. and Penn. R.R.s (advert.). Designated in transit as "one (1) other" on the Army meal-tickets, I was placed in the protective care of a certain citizen-soldier Caccione, formerly a Brooklyn carpenter, and a connoisseur of alluring cigars. An unpleasantly black variety of the latter attracted two small, lascivious children who proceeded to search me for arms. Though transmogrified with terror, I nevertheless had occasion to notice out of the corner of my left eye that it must be fun to be a WAC on the N.Y.N.H. railroad. I pass this information on to you for what it may be worth.

The first step in the making of a citizen-soldier is one of classification. We had to be thoroughly tested as to precisely *how* apt we were. This question of aptitude had worried me often during the dreamy, peaceful hours after we had gone to press, and before the first readers (gnashing their dental plates) appeared in the reception room to cancel their subscriptions. (*This incident is as fictitious as it is insulting. It makes us wonder how our former assistant passed the psychiatrist at the induction center in the first place—Ed.*) Well, I shall not keep it from you any longer—it was exactly 140, whatever that may mean. While in normal times this might get you into the Quiz Kids' program (in a pinch), it qualified me for several 18-hour assignments with the kitchen police—a branch of the service, which to all but the initiated contains inexhaustible funds of hilarity. A few days later, however, I was given a special service pass as a "writer." In this capacity I wrote—or rather lettered—the words MEN, WOMEN, INFORMATION, HOSTESS' OFFICE, and five times EXIT. When the officer in charge felt that both my grammatical resources and my occupational therapy needs had been exhausted, I was transferred to Fort A.

I don't think, somehow, that on the spur of the moment I would have described my training there as "basic." While I cannot tell you very much about its nature (it could not possibly *aid* the enemy, but it might comfort him. . .), I am in a position to recommend an elementary course in Judo to your next book-reviewer. Other impressions have stuck: The dangerously tubercular coughs of the NCO's, for example. Graded according to the different advanced stages of the disease, these are supposed to mean, either, "Forward—March" or "Order—Arms" or "Right—Face," or, merely, that the NCO in question is about to get a medical discharge. Perspicacity and a working knowledge of lung infections go into the making of a good soldier.

When I first sewed on the "Airborne" insignia on interminable sleeves, it occured to me that the word "airborne" was a synonym for "ethereal." Elated to the breaking point, I was going to get in touch with your caption-writer about it, but I had some doubts as to the ethical validity of this observation. The other day, however, I found conclusive proof: It was only a small sign, a mere notice put up in our Base Headquarters, and yet it was ethereal in its striving for perfection. The notice read: *"Quiet—Don't Drop Any Cigarette Butts!"*

PVT. P. J. BLACH

P.S. On second thought, "airborne" may be a novel way of hinting at immaculate conception . . . natural modesty alone prevents us from accepting that view.

CULTURAL CONSOLIDATION

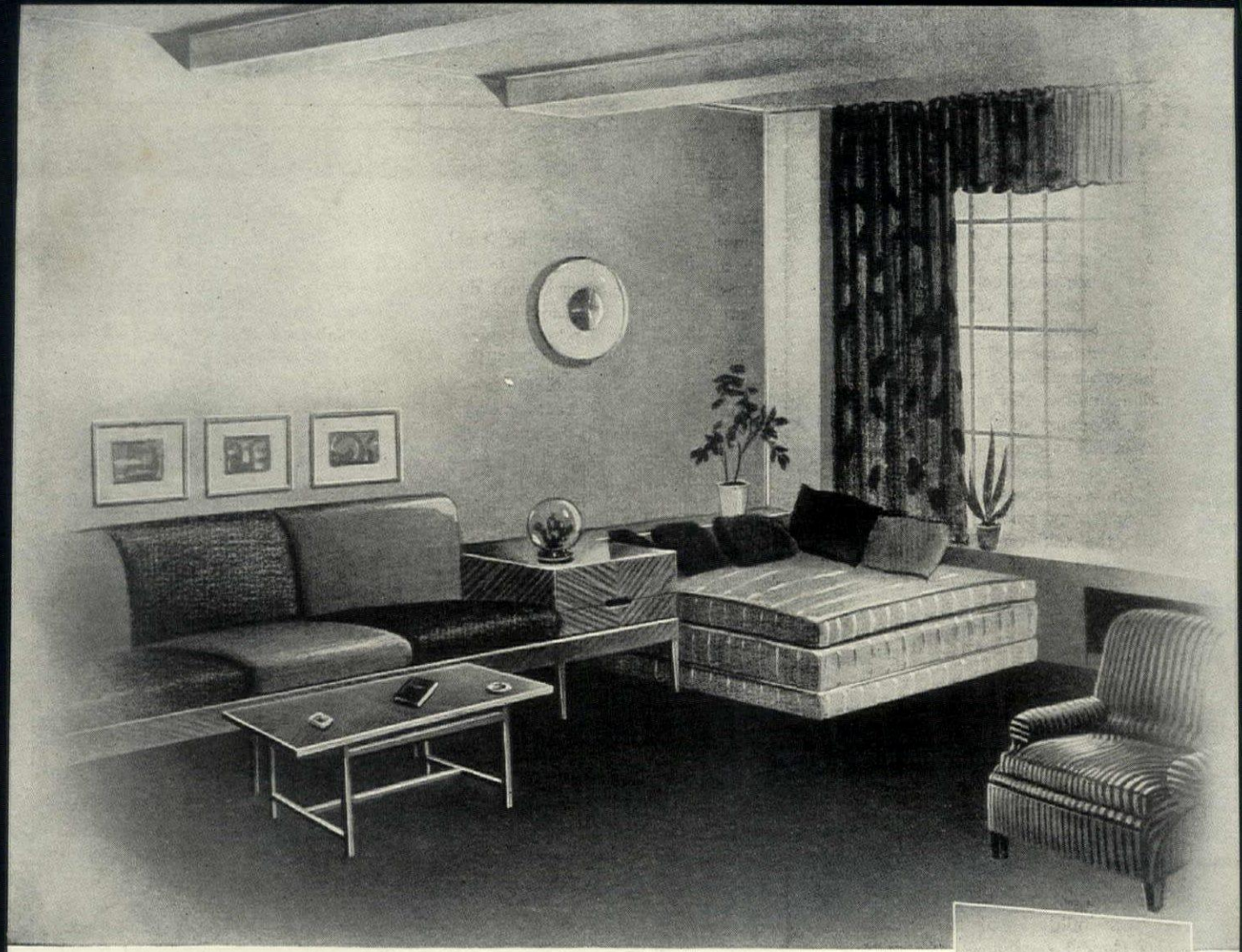
By wireless

Forum:

The war against Fascist Germany being waged by the Soviet Union in collaboration with the U. S. has considerably increased Soviet interest in our great transatlantic ally. Of particular interest to Soviet architects are the splendid achievements you have made in house and settlement building. The damage done in Soviet Russia by the Nazis and the gigantic scope of the reconstruction work facing the USSR are leading Soviet architects to study advanced methods practiced in America and methods of planning and mass building that insure rapidity, cheapness and high quality.

Soviet architects are under great obligation to THE ARCHITECTURAL

(Continued on page 36)





HOW YOU CAN BUILD NEW SALES APPEAL INTO POSTWAR HOMES

. . . and added Dollar Value, too!

DRY-BUILT FULL-WALL construction offers a wide-open sales opportunity. Full-wall size panels with a smooth pebbled surface of alluring beauty and efficient insulating value will be ready for the homes you will build when restrictions are lifted.

Thicker, stronger, sturdier *Strong-Bilt Panels*—proved in scores of thousands of homes during the past four years!

When you use Strong-Bilt Panels—

Your walls go up faster—saving valuable building time over tedious, old-fashioned methods. One panel covers an entire wall of an average size room, thus solving the problem of joints. No complicated or time-consuming system of filling and taping. No nails to countersink. No nail holes to fill. Floating Fasteners anchor the panels securely from the back.

Your insulation is built-in. Inherent qualities of the material provide efficient insulation up to 3½ times that of plaster.

You have enduring crackproof walls, for Strong-Bilt Panels positively will not crack, splinter or chip.

You avoid moisture troubles. No water. No waiting for plaster to dry. You eliminate the 1000 lbs. of moisture which may be introduced into the building of an average six room house.

Booklets with latest information on dry-built full-wall construction in conventionally-built and prefabricated homes are ready. For your copy, write The Upson Company, Lockport, N. Y.

Upson Quality Products Are Easily Identified By The Famous Blue-Center

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UPSON
STRONG-BILT
PANELS

THE CRACKPROOF BEAUTY SURFACE
WITH EFFICIENT INSULATING VALUE

LETTERS

(Continued from page 34)

FORUM for information dealing systematically and as a matter of principle with problems of the industralization of house construction. Your magazine also contains valuable material on other buildings and their construction and equipment.

The writer played a part in the publication, under the auspices of the USSR Academy of Architecture, of a series of books grouped under the title *Experience in Housing Construction in the U. S. A.* We set ourselves the task of popularizing among Soviet building experts the achievements of American architectural planning and building. Books written by myself that are now on the press include *Small Houses in the U.S.A., Housing Settlements in the U.S.A., Planning Housing Settlements in the U.S.A.* and *Urban Dwelling Houses in the U.S.A.* Books by other authors contributing to the series included *Construction of Small Houses, Construction of Many Storied Houses, Furnishing American Living Quarters, etc.* We owe a great deal to your journal for much of the material contained therein.

I have no doubt that the ideas used in American building and its organization and technical equipment will meet in the USSR with an attentive, warm reception. Publication by the Academy of Architecture of the *American Series* should be one of the many elements that go to strengthen growing Soviet-American friendship. No smaller part in strengthening and developing this friendship can also be played by your journal should it publish from time to time material dealing with Soviet architecture, planning and building. This activity will assume enormous scope in the Soviet Union in connection with the tremendous work of rebuilding of the towns and villages reduced to ruins by the Hitlerites.

I am convinced that with this friendly information as a basis, interest in the culture of both countries will grow among the architects of both the countries and will yield tangible results. The consolidation of the creative forces of the U.S.A. and USSR in the sphere of cultural construction is as necessary now as it is in the sphere of military activity.

THE ARCHITECTURAL FORUM—as an organ of progressive architectural thought in America—will be ahead in this task as in many other spheres of its activity.

With friendly greetings to American architects. . . .

ROMAN HIGGER

Moscow, USSR

A LETTER FROM THE PUBLISHER

Dear Reader:

Some like it hot, some like it cold. Whatever your reaction to THE FORUM's format, easy doesn't do it. Actually, it is done by a staff of three, headed by a talented, meticulous, likeable guy named Paul Grotz.

THE FORUM pretends to no art tradition, unless it be to move onward rather than upward. It has, however, a register of names which are not unknown. Going back as far as anyone here remembers, first came Russell Whitehead (later publisher of the superb *White Pine Monographs*) and the late Albert MacDonald, both of whom edited with one hand and did layouts with the other. To do the covers, MacDonald got Otto Eggers (who moved from magazines to memorials). Later came Roland Wank, whose FORUM covers preceded his TVA dams, Joe Sinel, who drove his Rolls Royce to California, making way for Heyworth Campbell, famed for *Vogue, Vanity Fair* and *House & Garden.*

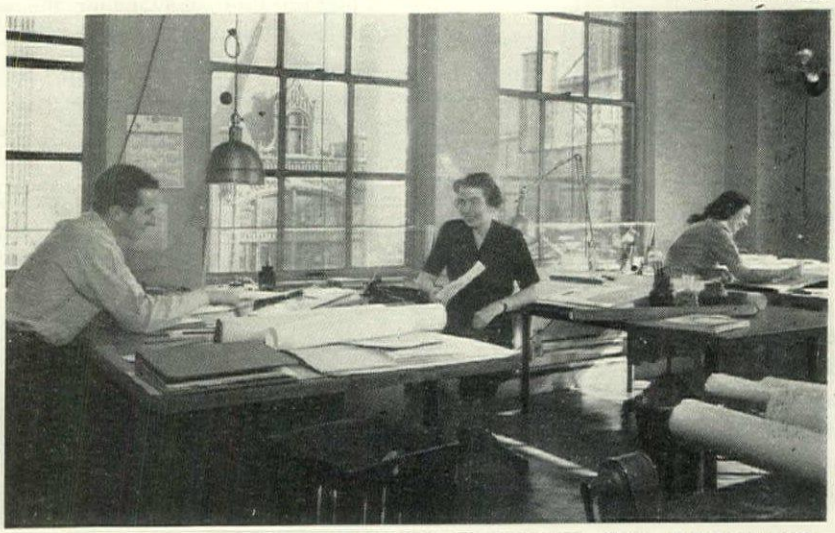
The present format of THE FORUM goes back directly to Ernest Born, who arrived here in the early 1930s with a brilliant talent, some wonderful handwoven neckties, a complete world philosophy and a firm conviction that the layout business was ripe for revolution. There were plenty of letters about magazine design when the Born layouts began to appear, but new subscriptions gradually outpulled the indignant cancellations.

Ernest's right-hand man all through this period of drastic change was Paul Grotz, who had remarkably complete technical qualifications for the job, and also some convictions of his own about how a magazine should be designed. Paul knew all the tricks of modern typographical design, plus a few of his own, but his real interest lay in creating layouts which would give all the important facts about a building in a single glance, with exactly the right emphasis on each. This approach makes things tough for the Art Department, but easier for the reader.

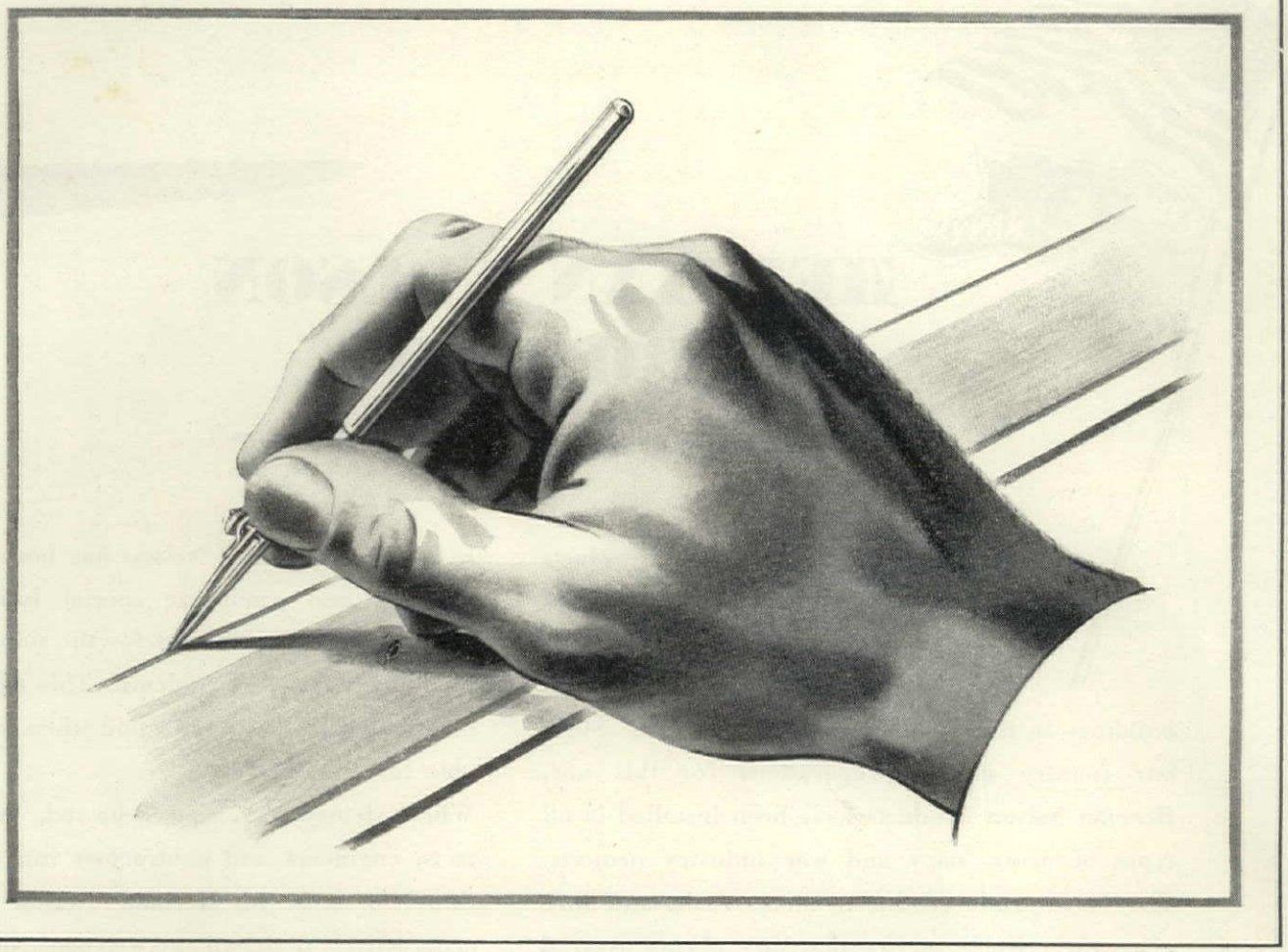
Madelaine Thatcher and Ruth Feierabend complete the trio. Between them they have created a "FORUM style" of drawing and lettering, through the work which appears every month. Both are first-rate designers in their own right. Madelaine, for instance, has illustrated a number of books (the last was Mary Gillies' excellent book on modern decorating). She has painted murals, produced fabric and wallpaper designs, and she is getting known for her superlative hand-stencilled fabrics. Ruth's background is more architectural: trained in the University of Zurich, she went on to Paris as a student of LeCorbusier, worked in Italy for Gio Ponti. When she was commissioned to do covers for the Italian magazine *Domus* and illustrations for the London *Architectural Review* she set out on the path which finally led her to THE FORUM.

If this resume invites your examination of this issue with a cold and expert eye, you may discover for yourself some other things about the format. Just to give you one more hint, every—yes every—floor plan, detail, etc., is redrawn and relettered for publication. H.M.

Myron Ehrenberg



ART DIRECTOR GROTZ, ASSISTANTS THATCHER AND FEIERABEND



this is
BLUEPRINT TIME!

The welfare of the nation will be greatly benefited, if, when peace is declared, a large volume of both private and public construction can break ground immediately. Construction is the greatest hope for full employment in the postwar period.

In order to get the maximum value from private investment or public works, and avoid waste of manpower, time and money, it is absolutely necessary to have well-planned, soundly conceived projects. This takes time and the time to plan is now. This is blueprint time!

Call in your architect, engineer and general contractor. Put your problems before them. Each has much to contribute in thinking, experience, data and facts that should be considered long before any actual construction is done.

By such activity you assure a better competitive position for your company in postwar, more employment for returning soldiers and you help private enterprise to bear its share of the responsibility for postwar social and economic conditions.

The employment provided on a planned, needed public works project is a regular job at regular pay. A job on a hastily started project is made work at relief wages.

As you plan, bear in mind that the actual construction by a competent general contractor is another guarantee that the maximum value will be received from the investment.

"Planning Future Construction Markets" is a pamphlet published by the AGC that contains much valuable information for anyone interested in the construction industry. We'll be glad to mail you one gratis.

THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA · INC. · A G C · REG. U.S. PAT. OFF.

THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, INC.

NINETY CHAPTERS AND BRANCHES THROUGHOUT THE COUNTRY
NATIONAL HEADQUARTERS—MUNSEY BLDG., WASHINGTON, D. C.

SKILL, INTEGRITY AND RESPONSIBILITY IN THE CONSTRUCTION OF BUILDINGS, HIGHWAYS, RAILROADS AND PUBLIC WORKS



HERMAN NELSON PRODUCTS

in peace and at war

HERMAN NELSON products which were used to heat and ventilate all types of public, commercial and industrial buildings in times of peace are now at war. Since our country started preparations for this war, Herman Nelson Products have been installed in all types of army, navy and war industry projects. They have produced the excellent results and have given the reliable service that they always assured in peace time installations.

In addition, Herman Nelson has been developing and producing special heating and ventilating equipment for the solution of difficult logistic problems. This equipment will find new application when available for civilian use.

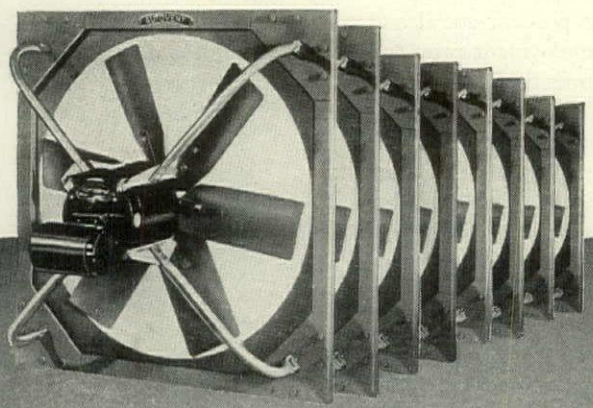
When victory has been achieved, architects, engineers and contractors can continue to look to Herman Nelson for progressively designed and well constructed heating and ventilating products.

herman nelson moline illinois

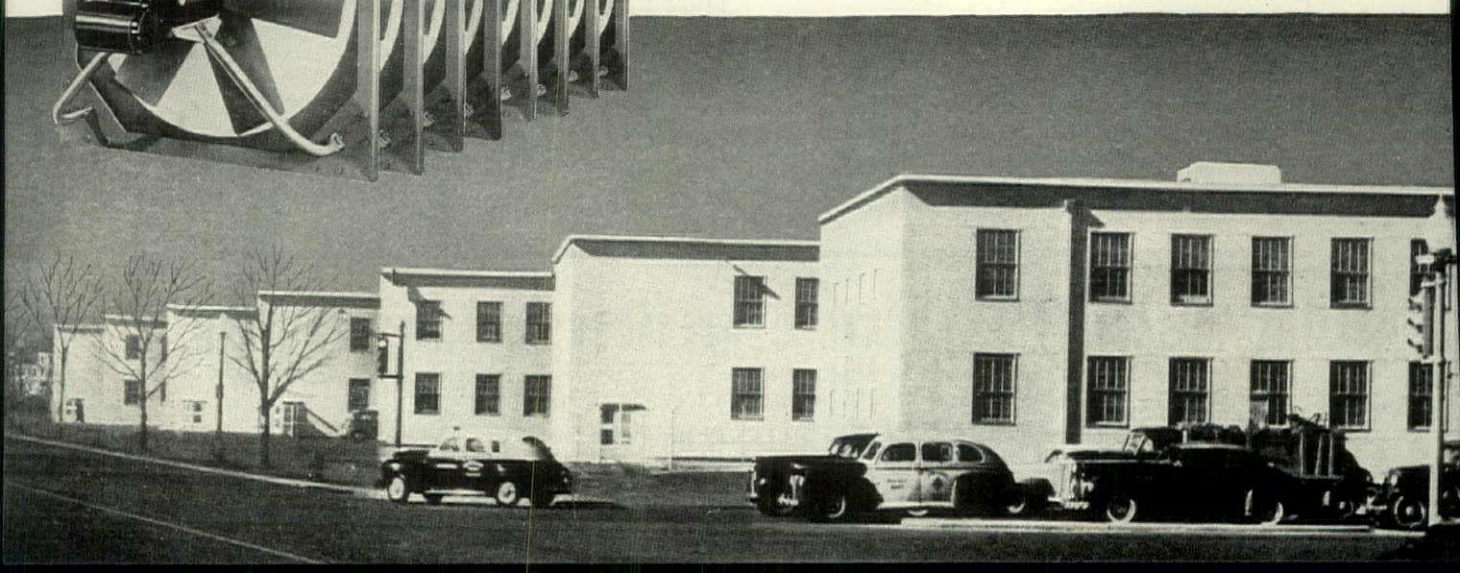
THE HERMAN NELSON CORPORATION

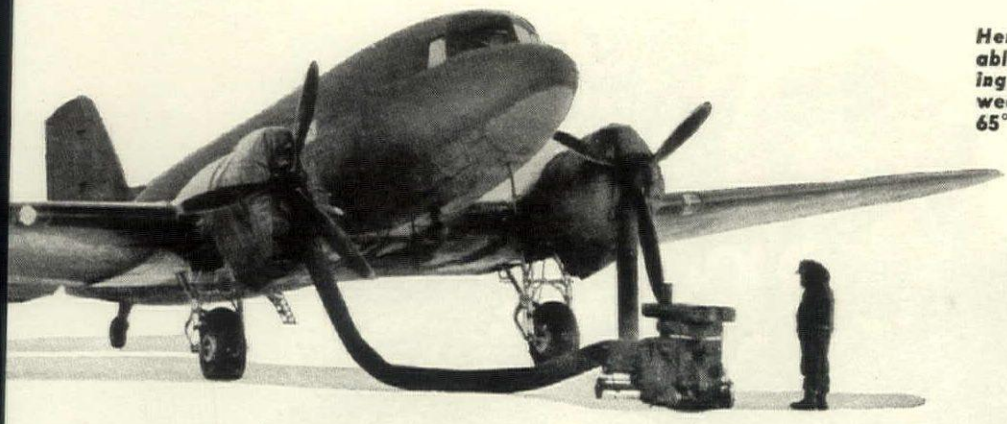
MANUFACTURERS OF QUALITY HEATING, VENTILATING AND AIR CONDITIONING PRODUCTS

MOLINE, ILLINOIS

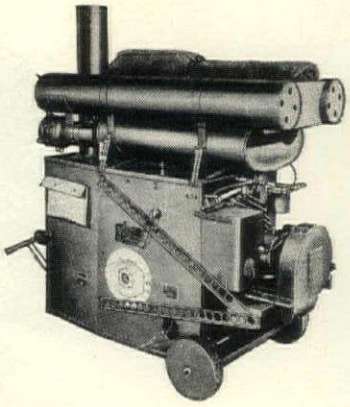


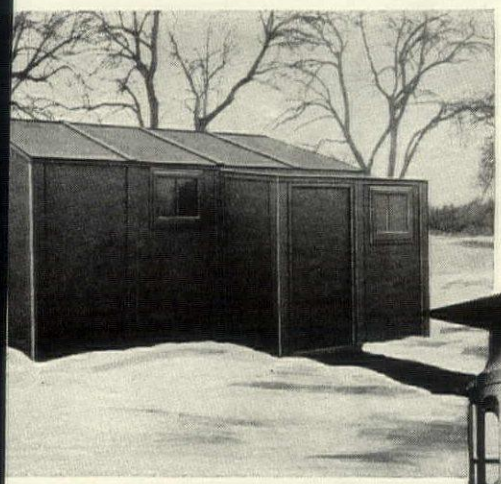
Herman Nelson Autovent Propeller Fans were used to ventilate these buildings constructed in Washington to house government workers. In peace time these fans are used to provide needed air changes for workers in many types of commercial and industrial buildings.



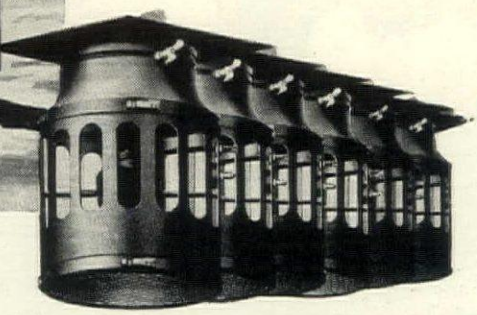


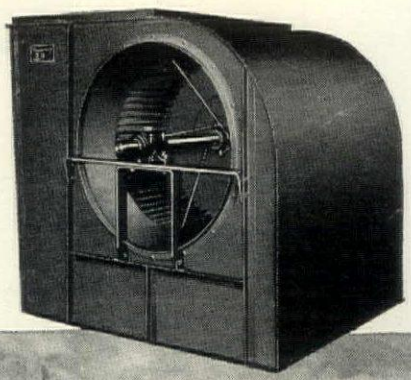
Herman Nelson developed these portable, self-powered heaters for preheating aircraft engines in severe, cold weather with temperatures as low as 65° below zero.



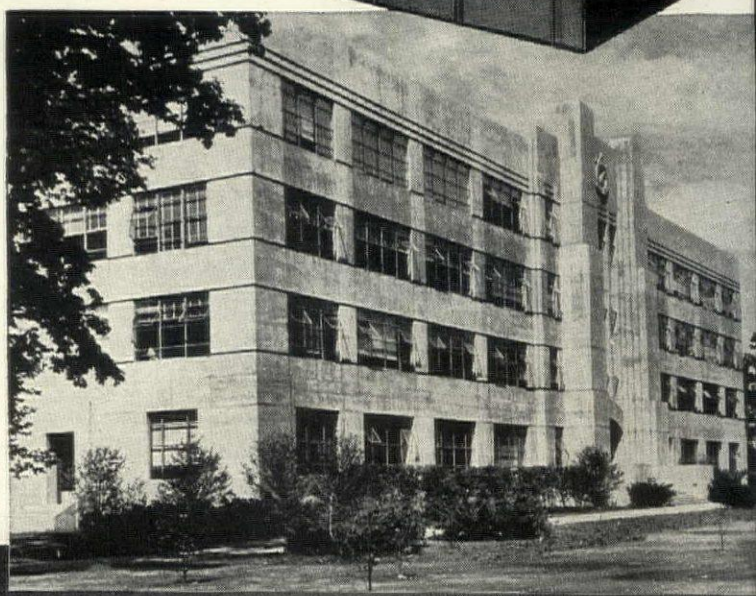


These ventilators were designed by Herman Nelson to overcome stratification in huts used by the armed forces in cold climates.

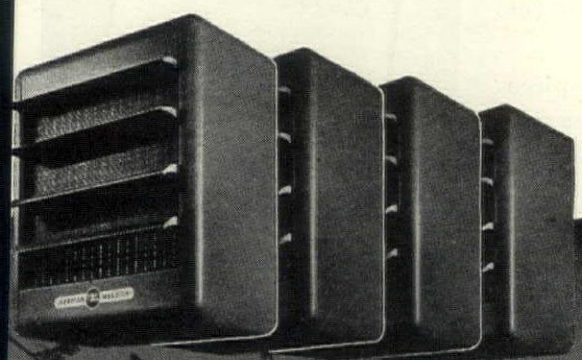




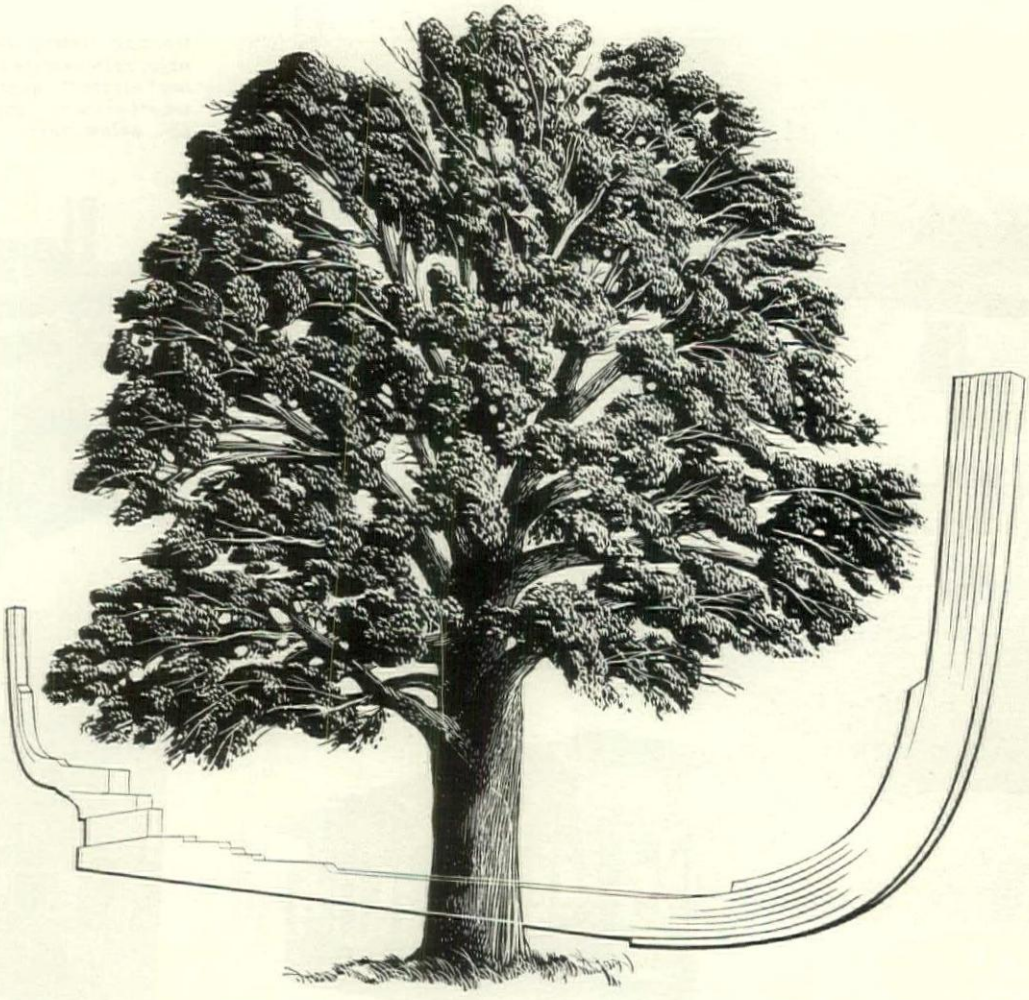
A Herman Nelson Autovent Blower provides ventilation in this Administration Building at one of our government Arsenals. In time of peace these blowers are used not only for ventilation but for many industrial process installations.



This naval station recreation building is heated with Herman Nelson hiJet Unit Heaters. After the war these heaters will provide warmth for recreational space in schools, churches, clubs and similar buildings.







TREES—"MADE TO ORDER"

"FOR CENTURIES, the height of the tree available for its keel governed the length of a ship." *Today, 50-foot, one-piece keels with stem and stern post are being glue-laminated from random length, thin oak boards.*

The invention of a completely durable laminating glue* made it possible. The advantages are many: one-piece units of a size never before possible; readily available "raw materials" in the form of thin, easily conditioned wood; quick, economical production with minimum waste; stronger (or lighter) members, accurately shaped for quick assembly.

Apply this thinking to your construction plans. You can design one-piece beams, columns, arches, rafters—of any size or shape, straight or curved, heavy or light. You can figure them as stronger, more durable than solid wood, far stronger than units made with mechanical fasteners.

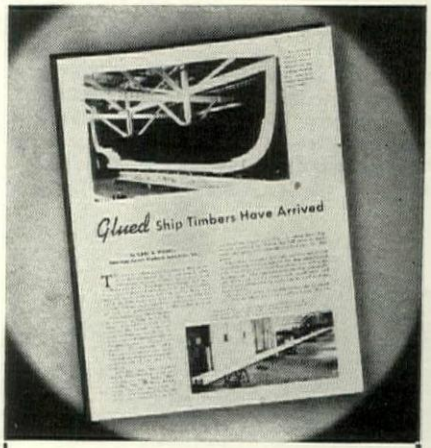
You design the members and name the fabricator. We supply the glue and the gluing knowledge.

CASEIN COMPANY OF AMERICA • *A Division of The Borden Company* • NEW YORK, N. Y.

*CASCOPHEN LT-67, *non-acid, low-temperature-setting phenol-resin glue meets all Army and Navy specifications for laminating ship timbers. Heatproof, boilproof, crazeproof.*

CASCO · CASCAMITE · CASCOPHEN
CASEIN UREA-RESIN PHENOL-RESIN

Glues for Industry

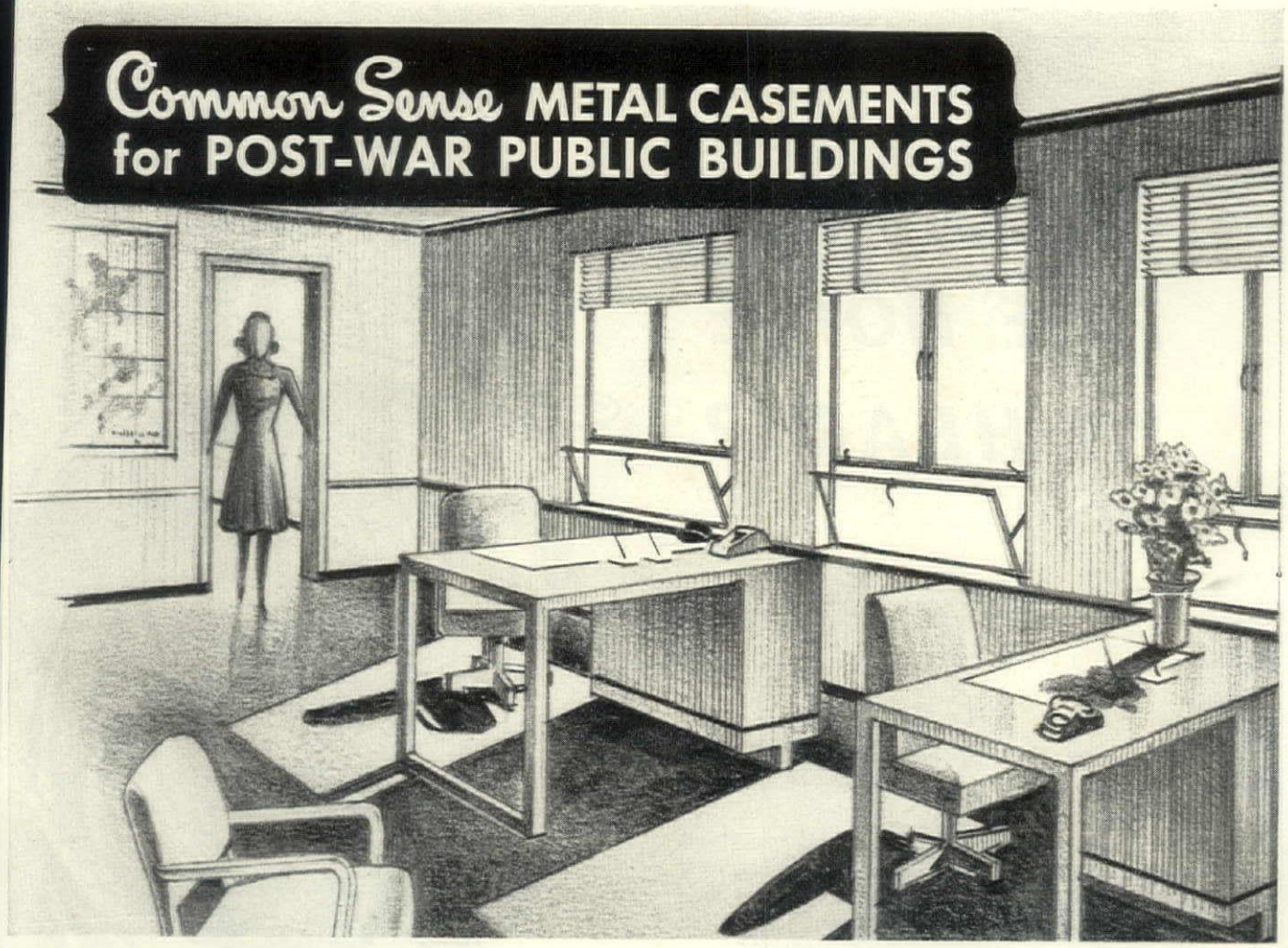


DID YOU READ IT?

The dramatic story of the first successful gluing of laminated ship timbers was described in recent marine publications. If you missed it, we will be glad to send you an illustrated reprint. Just address your request to:

Casein Company of America
350 Madison Avenue, Dept. AF 12
New York 17, N. Y.

Common Sense METAL CASEMENTS for POST-WAR PUBLIC BUILDINGS

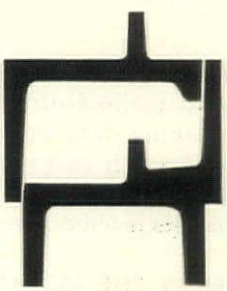


Windows in Public Buildings get continued hard use . . . harder use than in any other building.

And, since public buildings are built to last, *windows which are built to last,* are required. The Mesker Metropolitan Casement is just such a window. It is especially designed and engineered for use in monumental types of buildings.

CHECK THESE FEATURES:

1. Has the deepest, strongest, "lifetime" steel section . . . a window with a frame 1¾" deep.
2. Extra heavy members make it a "guaranteed" weather-tight sash. Absolutely weather-proof, it means warmth in winter, plus fuel savings.
3. Notice "tilt-in" sill ventilator. This means *no-draft* ventilation, eliminates "gusts" which blow papers off desks, provides ventilation even in stormy weather.
4. Outswing Vents open at a flick of the finger, in the largest of windows. Important because public buildings often require large windows.
5. *Will not stick!* Always easy to open. Solid bronze lifetime hardware. Provides plenty of daylight and fresh air . . . up to 100% ventilation.



The special 1¾" deep Mesker Steel hospital window frame

Mesker Brothers

424 SOUTH SEVENTH STREET · ST. LOUIS, MO., U. S. A.

ESTABLISHED IN 1879 · OVER 64 YEARS OF METAL WINDOW RESEARCH

CASEMENT WINDOWS · MONUMENTAL WINDOWS · INDUSTRIAL WINDOWS · SCREENS · INDUSTRIAL DOORS · DETENTION WINDOWS · REINFORCING MESH GRATING

ARE YOU A FIRE HORSE AT HEART?



LIKE most people, you probably enjoy running to fires. But we'll bet there's one kind of fire you don't like to run to—and that's in a house you designed yourself! That's the reason we want to tell you about Gold Bond Gypsum Sheathing. There's nothing new or experimental about this fireproof material. It's been the government's choice on many big war jobs. Even before the war its superiority over old-style inflammable sheathing was clearly demonstrated. Here's why:



FIREPROOF: Above all its other advantages, Gold Bond Gypsum Sheathing is fireproof. Its gypsum core provides effective fireproof protection for wood framing.

WIND-TIGHT JOINTS: V-groove joints make Gold Bond Gypsum Sheathing tight against the wind—and keep it that way! The panels won't shrink, warp or swell with changes in temperature or moisture.



HERE'S THE MODERN WAY to sheathe any wood frame building . . . with Gold Bond Gypsum Sheathing. Lightweight panels of processed gypsum rock fit standard stud spacing. Can be sawed like lumber for the little trimming needed. Rock-like construction adds greater strength to the building.



FOR EMERGENCY JOBS, use Gold Bond Gypsum Sheathing as the exterior wall—all that's needed is a coat of paint for weatherproofing. On postwar jobs, any exterior finish may be applied. Gold Bond Gypsum Sheathing is only one of National Gypsum's family of fireproof products. Others are wallboard, gypsum lath, lime and plaster. Write today for information.



NATIONAL GYPSUM COMPANY . . EXECUTIVE OFFICES, BUFFALO, N. Y.

21 Plants from Canada to the Gulf . . . Sales offices in principal cities

THE MONTH IN BUILDING . . . NEWS

Blandford urges unity, end of bickering (this page) . . . PBA blueprints its postwar job (page 44) . . . United Auto Workers' head labels housing biggest postwar industry (page 44) . . . New York plots a mammoth fashion center (page 45) . . . Emergency housing for 30 million Europeans (page 46) . . . Leon Henderson counts Building's hurdles (page 48).

YEAR AHEAD

As he tore 1943 off his calendar, Old Man Building rubbed his chin reflectively, wondered whether he might not like to drop 1944 out the window, too. In one ear poured prophecies of postwar planning so intoxicating they hardly seemed believable. But in the other sounded sobering warnings that two wars were still being fought, were still to be won; that the new year would be worked with paper and pencil, not with hammer and saw. Out of all the confusion, one point stood crystal-clear: Victory could be followed with a surge of building bigger than anything the U. S. had ever seen if the industry would ready itself now instead of wasting precious time and energy in intramural bickering. Almost the lone constructive voice of the month was National Housing Administrator John B. Blandford's, speaking to a New York meeting sponsored by the Citizens' Housing Council:

" . . . Let us take up the challenge of postwar housing by making large plans. Let's set ourselves big goals in the American tradition and strain all our energies to achieve them.

"The challenge of postwar housing applies to all the forces on the housing front—to building labor, to contractors, to lenders and the materials industry, to communities and to the federal government, to local and national organizations working on the housing problem. The failure or refusal of any one of these broad forces to face up to the future will make it just that much more difficult to transform big plans into big accomplishments.

"I believe the most menacing barriers . . . are the prejudices and straw men which blind us . . . to clear objective recognition of facts.

"I believe we in housing are operating in one of those broad fields . . . in which agreement on basic objectives is imperative. Let us ask ourselves a few questions. Are there responsible groups which oppose raising housing standards for the American people as a whole? Are there any who object to providing stable employment at good wages for increased numbers of workers? Are there those who fear a greatly expanded output by the building materials industry or the investment of a greater volume of national savings in housing? Of course there aren't.

"If we concentrate our energies on securing common agreement on these big housing objectives rather than on aggravating differences of viewpoint on small issues then we can move forward on a scale that will produce productive activity for all elements in the housing field.

"The central fact in postwar housing will be in my opinion the people's demand for good housing—for better housing than we have had in the past—for a housing program that will neglect no segment of the population. There are many important objectives in postwar housing which follow this central fact. We want to provide good livelihoods for large numbers of building workers. We want to make possible larger profits for builders. We want to provide big profitable outlets for the building materials industry and for the nation's financial institutions. We want to help cities rebuild their blighted neighborhoods. But our main objective . . . must be to provide good housing for all American families."

Prophecies. The Producers' Council led off the month's forecasts, saw a possible average postwar building year that might double yearly production in the 1938-40 period. Residential construction alone, PC thought, would amount to 972,000 units. From Federal Housing Commissioner Abner Ferguson came a sensible reminder that Building would have to grow up fast to produce anything near one million houses

a year. FHA's own guess, based on field surveys: Residential construction in the first postwar year of 350,000-400,000 units, gradual increase every year thereafter.

Fortune added its prophetic voice to the general tumult with survey findings pointing to what every builder would like to find under his postwar Christmas tree: consumer demand for 4,700,000 houses, to be paid for out of wartime savings.

Plans and Rumors. From the United Nations Relief and Rehabilitation Administration came a measure of the vastly different job facing European building: emergency shelter for 30,000,000 war victims.

From labor came the month's most cogent chart for postwar action: United Automobile Workers' Walter P. Reuther proposed a Peace Production Board to direct reconversion, underlined housing as a potential first U. S. industry.

Local blue-prints showed promise. Metropolitan Life's ambitious scheme to rebuild 18 of Manhattan's slum blocks cleared another hurdle: New York State's Court of Appeals turned down the plea of property owners that it is unconstitutional to grant the Met right of eminent domain. Big-doing, dogmatist Robert Moses handed Portland, Ore. a two-year time table for postwar construction that would employ 20,000, cost $75,000,000, provide bridges, highways, a 24-block civic center.

And with all the big talk, rumors thick as ack-ack filled the sky with reports that this plane builder and that steel maker were "that way" about prefabrication.

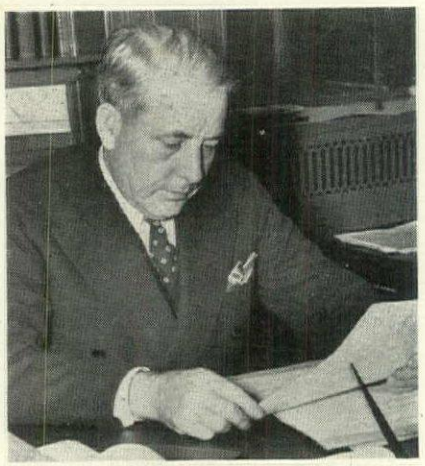
Old Man Building took a cold clear look at things, allowed that whatever the new year might dish up, at least it wasn't going to be dull. Just a trifle pensively, he added the wish that the fighting might better be left to the boys who were making a good professional job of it overseas.

PBA LOOKS AHEAD

"The only architect who has to live with his own mistakes" is what Commissioner W. E. Reynolds likes to call the Public Buildings Administration. PBA, which constructs all federal buildings, must also repair and maintain them. Last month canny Commissioner Reynolds, with $500,000 in his pocket, was busy making the plans he hoped would assure few postwar building mistakes.

Feeling the preliminary twinge of his inevitable postwar headaches, Reynolds was a jump ahead of most Washington bureau chiefs in convincing Congress that money spent now for serious advance planning would save millions later. His objectives: To estimate new building that will be needed after the war to house government agencies; to find out about new technical developments in building materials and methods. Recalled from retirement to help with the job: veteran PBArchitect Lewis Simon.

War-moved out of Washington, many



REYNOLDS: planning jump ahead

an agency will want to come back. War-housed in emergency quarters, many new agencies may need permanent space. Not even the vast Pentagon, when military personnel shrinks, will be able to accommodate all the agencies seeking a new Washington home.

Over the country, need for new federal office space will be even greater. Now housed largely in leased space, some decentralized government agencies will stay in their new locations, will require more adequate quarters. Mounting and complex taxes, reaching into lower income brackets, mean more tax collectors on the federal payroll, more space for Bureau of Internal Revenue offices. The vast postwar job of the Veterans' Administration and of any new agencies set up to aid service men is likely to be of a size unprecedented in the U. S., and to require building on the same scale.

Working closely with manufacturers in its exploration of new building products, PBA, as federal landlord, is anxious to incorporate materials in its building operations that will cut down maintenance costs. For example, Commissioner Reynolds figures that any practice that would save one cent per square foot in the yearly cost of operating the government's Washington plant alone (1,000 acres of floor space) would cut the impressive sum of $500,000 off PBA yearly maintenance bills. PBA encourages employe suggestions; 5,000 money-saving ideas have already been turned in by rank-and-file workers. Unhampered by restricting local building codes, PBA is in a position to make construction innovations that may point the way to improved practices for the whole industry.

REUTHER PLAN II

From the labor leader who has outmanaged the million dollar managers of the automobile industry last month came a plan for peace pivoted on housing as the nation's No. 1 industry. Squat, tenacious Walter P. Reuther, vice-president of the bigtime United Automobile Workers Union, as early as 1940 vainly knocked on Washington doors with a plan for converting automobile plants to plane production. After Pearl Harbor both Washington and automobile bigwigs were ready to listen and the Reuther Plan catapulted into headlines.

Since the troubled days of 1936 when he organized the first major sit-down strike in the auto industry, Reuther has won both industry and government respect as a labor leader with a brain and a conscience. More than perfunctory attention was likely to be given to his newest proposal: a "Peace Production Board" where government,



REUTHER: No. 1 for housing

labor, industry and consumer representatives would join hands in directing the national swing from war to peace.

Important PPB jobs: to formulate an extensive public works program "not as an emergency government project nor a glorified WPA but as a permanent part of a healthy expanding national economy" and, with the guidance of the best architects and engineers, to

supply direction and initiative for a nation-wide housing program to be carried on in large part by private industry.

Established as a part of PPB, a housing authority would "first of all correlate its building program with an analysis of the desired population level and production program in each community or area.

"The geographical location and construction of our many aircraft plants make them easily convertible to work on prefabricated houses and prefabricated bathrooms, kitchens, and heat and air-conditioning units. Prefabrication does not necessarily mean standardization in design or taste. We can get plenty of variety.

"Housing must be made our No. 1 postwar industry and must be given the attention of a major industry. It is time we gave as much attention to the designing, the materials, and the construction of a house as we are giving the building of an airplane, tank or battleship."

Whatever the destiny of Reuther Plan II as a national policy, as a dynamic statement of specific action it would be certain to help both private and public planning take more postive shape.

END IN SIGHT

War housing was on the home stretch, said NHAdministrator John B. Blandford. Building was in high gear; each day 2,000 new homes were ready for war workers to move into. And the end was at last in sight. War production peaks would be reached by late spring, after that war spending would level off, worker migration settle down.

In many ways the last lap of the war housing road looked like the toughest stretch to travel. For private building, the 1944 assignment was 136,795 houses. But thousands of homes already built stood waiting ranges, furnaces, refrigerators, bathtubs. Builders found lending agencies increasingly reluctant to advance funds until there was assurance of equipment to make the houses habitable. Still not forthcoming was hoped-for WPB approval of the production of 163,000 bathtubs, urged by the National Housing Agency. Delayed were countless applications for mechanical refrigerators because WPB thought refrigerators were going into houses where occupants could buy ice, decided to tighten eligibility standards. And no one was very hopeful that WPB, also pondering whether enough critical materials could be spared to manufacture a few refrigerators in 1944, would come to either a speedy or a lenient decision.

Housing stepped up to an AA-1 priority rating in Los Angeles, San Diego, Fort Worth and Dallas hot spots. The National Association of Home Builders renewed its pleas that the AA-1 rating be extended to the rest of the housing job. In Los Angeles, builders got together on an important step to speed up priority applications, agreed on a standard list of materials needed.

Public Money Cut. Even after careful pruning of his 1944 estimates, the NHAdministrator said the government would have to build 132,551 war housing units before next summer. "Frankly, I am not sold on a dollar's worth of the program," said Representative John Taber tartly, and many another Congressmen echoed his sentiments. Briefcase bulging with charts and tables, the NHAdministrator found the House Appropriation Committee's appetite for figures insatiable, its digestion only fair. Probing the NHA request for a final appropriation of $200 million the Committee was unimpressed. Observed Representative Richard Wigglesworth: "It is a guess rather than a program."

When the supplemental deficiency appropriation bill passed the House, it carried only $50 million for war housing. No change was expected from the Senate. NHA said programming of public housing would come to an end until Congress sees fit to appropriate more money; $50 million was scarcely enough to cover jobs already planned.

MASS PRODUCTION KEY

If each U. S. railroad had its own track gauge with box cars built to fit, freight shipped from Los Angeles to New York would have to be reloaded at every junction. Key to low cost transcontinental freight hauling, the standard railway gauge is as old as U. S. railroading. Key to enormous construction economies as well as to the mass-produced house of tomorrow,

(Continued on page 46)



Impresarios Whalen, LaGuardia



Empire's Smith, Vogue's Chase



ILGW's Dubinsky, Met.'s Ecker



Altman's Burke, Banker Bruere

ROCKEFELLER CENTER II?

From the East Side salon where Mainbocher caters to the *haute couture* to the crowded work rooms of Seventh Avenue, New York's garment trade had something newer than the newest model steal to talk about. Up Mayor Fiorello LaGuardia's crowded sleeve was a glittering plan for a mammoth center where the city's No. 1 industry would cooperatively display its wares.

Still dark at month's end was the possible location, but real estate betting was that it would be between 34th and 44th streets, on Fifth Avenue or not far west of it. Financing details were vague; there would probably be a real estate bond issue, but nobody had any candidates for the corporate backers. Fashion display rooms would be housed in a group of buildings, none more than 15 stories high, with about 2½ million sq. ft. floor space.

The total plan grew daily more immense: adjoining the fashion center would be a municipal auditorium to seat 25,000 (on the roof, a helicopter landing field), a new industrial arts high school. There were the usual reports that the Metropolitan Opera was interested in locating its long-discussed new building at the site. Head of the planning committee was Master Merchandiser Grover Whalen, who for 20 years has cherished the notion that New York's fashion prima donnas would someday unite for better merchandising. For some of the other 95 notables appointed by the Mayor as planners, see left.

Photos: Wide World, Acme, Conde Nast, Abbott

NEWS

standard dimensions for construction materials have only recently begun to look like a reality for U.S. building.

But last month promise mounted that Building might come out of the war with a firmer grip on a low cost future. The gospel of modular standards, preached by such early apostles as the late Albert Farwell Bemis and Ernest Flagg, now boasts these potent disciples:

►The American Standards Association, whose sectional committee (A62) has proposed a standard basis for industry-wide coordination of building materials in terms of the 4 in. module. First to advocate the 4 in. unit as the basis of modular design was Researcher Bemis, who pointed out that 4 in. or its multiple is the nominal wall thickness of most American houses, is also the approximate size of many building products.

►The Producers' Council and the American Institute of Architects, joint sponsors of the ASA modular study project.

►The Structural Clay Products Institute, whose manufacturing membership has agreed to manufacture brick and tile products in modular sizes for the postwar market.

►The National Concrete Masonry Association, whose board of directors has passed a resolution favoring the adoption of the proposed ASA basis for the coordination of concrete masonry.

►The Department of Public Works of the City of New York, now using modular design in planning some of its postwar building projects.

Although Building men have almost universally endorsed the theory of dimensional coordination, they have been typically slow to put it into practice. That the industry is now near making up its collective mind to adopt modular standards is due in large part to the conscientous spade-work of the Modular Service Association, founded by Albert Bemis and headed by hard-working Myron W. Adams.

CODE FOR PREFAB

Big threat to prefabricators' hopes for an expanded postwar market are local building codes, many of them so framed that prefabricated construction cannot meet conformance standards. First major step to recognize prefabricated construction came from the Pacific Coast Building Officials Conference, which wrote the uniform building code now used by some 350 cities.

Up for discussion at the Conference's recent session in San Francisco was a new chapter setting standards for prefabricated construction. Members approved with little quibbling. Welcomed by the Prefabricated Home Manufactures Institute, the code takes account of many prefab facts of life. One of them: Some materials built into prefabricated assemblies cannot be inspected at the site, nor can building inspectors usually make trips to prefabricating plants. Solution: In lieu of inspection, a certificate from a recognized testing agency approving the materials as meeting code requirements will be acceptable.

SHAPE OF DEMOCRACY

"We shape our buildings and afterwards our buildings shape us," the Prime Minister said thoughtfully, making at once a memorable phrase and the only architectural story to get almost universal newspaper headlines for many a month. Churchill likes the shape of the English party system as much as he likes the oblong shape of Parliament's chambers, where opposing parties sit facing each other. "Crossing the floor," he told the House of Commons, "requires serious consideration."

Question before the House was rebuilding of its century-old assembly, destroyed by a German bomb in May, 1941. Since then Commons has sat on red leather benches under the gilded roof of the House of Lords, and the peers have met in the King's Robing Room.

On no account, Churchill warned members, should the Commons' traditional oblong shape be discarded for a "semi-circular assembly, which appeals to political theorists and enables every individual or group to move around the center, adopting various shades of pink according to how the weather changes." Nor should the chamber's 75 x 45 ft. dimensions be enlarged. "If the House is big enough to contain all its members, nine-tenths of its debates will be conducted in the depressing atmosphere of an almost empty or half-empty chamber. The essence of good House of Commons speaking is a conversational style. . . There should be on great occasions a sense of crowd and urgency."

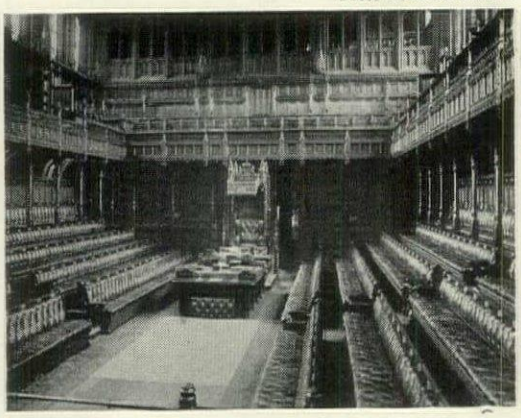
Only architectural revolutionary was Labor Member James Maxton, who suggested that Commons be rebuilt on a grand scale in the heart of the English countryside, with an airport handy.

HOMELESS: 30 MILLION

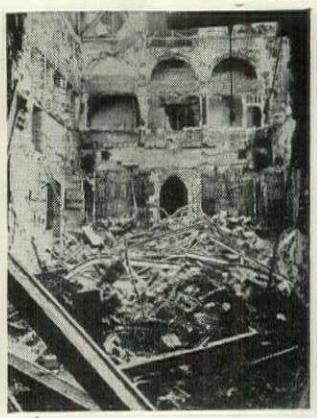
Biggest housing news of this or any other month was word from the Atlantic City conference that the United Nations Relief and Rehabilitation Administration is making the first plans for rehousing the 30 million Europeans whom the war will leave homeless. Measuring the size of Europe's need for emergency shelter, UNRRA called upon the National Housing Agency for advice on basic policies.

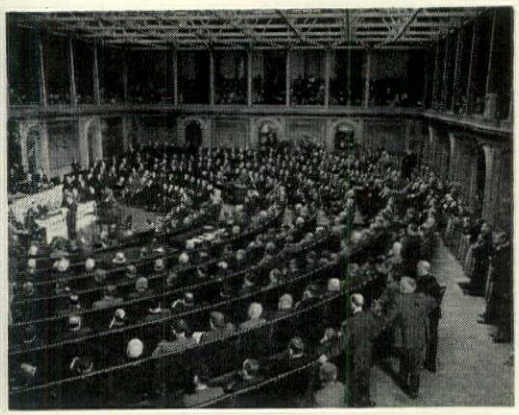
When the long road back home opens once again for millions of Europeans, liberating governments must be ready to meet what looks like the biggest housing job of our times. Sample: Poland. where migraton began in 1939

Press Portrait Bureau



AP Photo





DEMOCRATIC ARCHITECTURE: Britain's bomb-damaged House of Commons will be rebuilt in traditional rectangular shape. Churchill believes semi-circular assembly as in U. S. House of Representatives is not favorable to traditional party system.

when 800,000 Ukrainians loaded their belongings on horse-drawn carts and headed away from German-occupied territory to find new homes back of the Russian border. More than 1,500,000 Poles were later expelled from the Western lands swallowed by the Reich; 1,750,000 were sent to Germany for forced labor; at least 1,000,000 are in concentration camps. Whole villages were destroyed by the Nazis, and many a departing Pole fired his own home to keep it from German hands. To gauge the total problem, devastated Poland must be multiplied by Greece, by the Ukraine, by almost the whole war scarred face of Europe.

Necessarily working on the basis of only the most meager data as to extent of damage and the expected need for shelter in now-occupied countries, NHA could, however, draw on its experience in finding homes for 10 million U. S. war workers and their families to help chart the first steps of the vast job ahead. NHA recommendations:

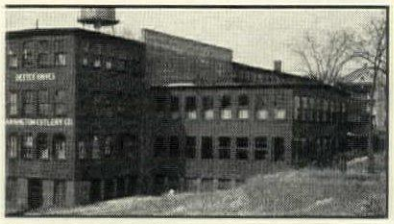
All available shelter space, including public and commercial buildings, must be utilized by conversion and billeting. Repair of damaged buildings must be stimulated. Where unavoidable, temporary construction will have to be supplied using "almost wholly local materials and labor." There should be advance preparation such as 1) a data book, summarizing for each region such information as estimated shelter reserves and housing need, local laws and administrative machinery, extent of war damage, locally available materials; 2) a field manual providing a step-by-step program for quick housing.

Local authorities will do the job, will need help in unblocking community labor and material sources and in defreezing financing, including war damage insurance, NHA suggests. Such discarded war material as military barracks and the enormous amount of lumber shipped overseas as crating will ease the materials pinch, but NHA believes a system for allocating materials and equipment will be necessary.

Permanent reconstruction of war damage and the world-wide need for construction to catch up with accumulated housing deficit and for city rebuilding "constitute problems quite different from emergency relief shelter," NHA emphasizes. "They will probably be carried out under the responsibility of each nation. They will constitute an important part of national and international economic activity. They will probably involve international loans, international trade in machinery, materials and equipment, and international exchange of information and ideas and of housing and city-building specialists."



THIS IS HOME TO ONE WORKER



OLD FACTORY GETS NEW DRESS

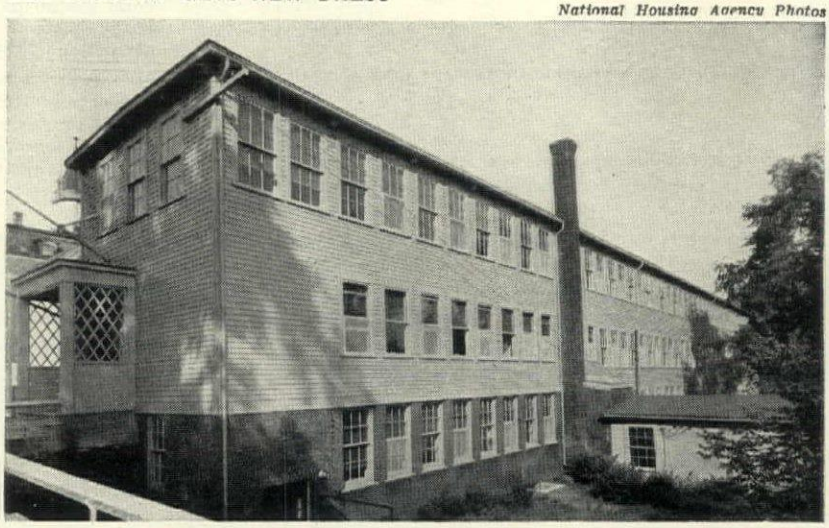
POPULAR PROGRAM

War housing short-cut, the Federal Public Housing Authority's conversion program has rolled along smoothly, accompanied by an almost universal chorus of approval. WPB likes the critical metal saving; Congress likes the dollar saving. (FPHA says remodeling saves 70 per cent in critical materials, 60 per cent in cost as compared to new temporary construction.) Owners of property which hasn't paid its keep for years beam at the revenue the federal leasing and remodeling plan offers.

Typical conversion job, this one-time factory at Southbridge, Mass. now houses 98 women, skilled war workers at the American Optical Co. plant.

Some 200,000 homes for war workers have already been provided by public and private conversions.

National Housing Agency Photos



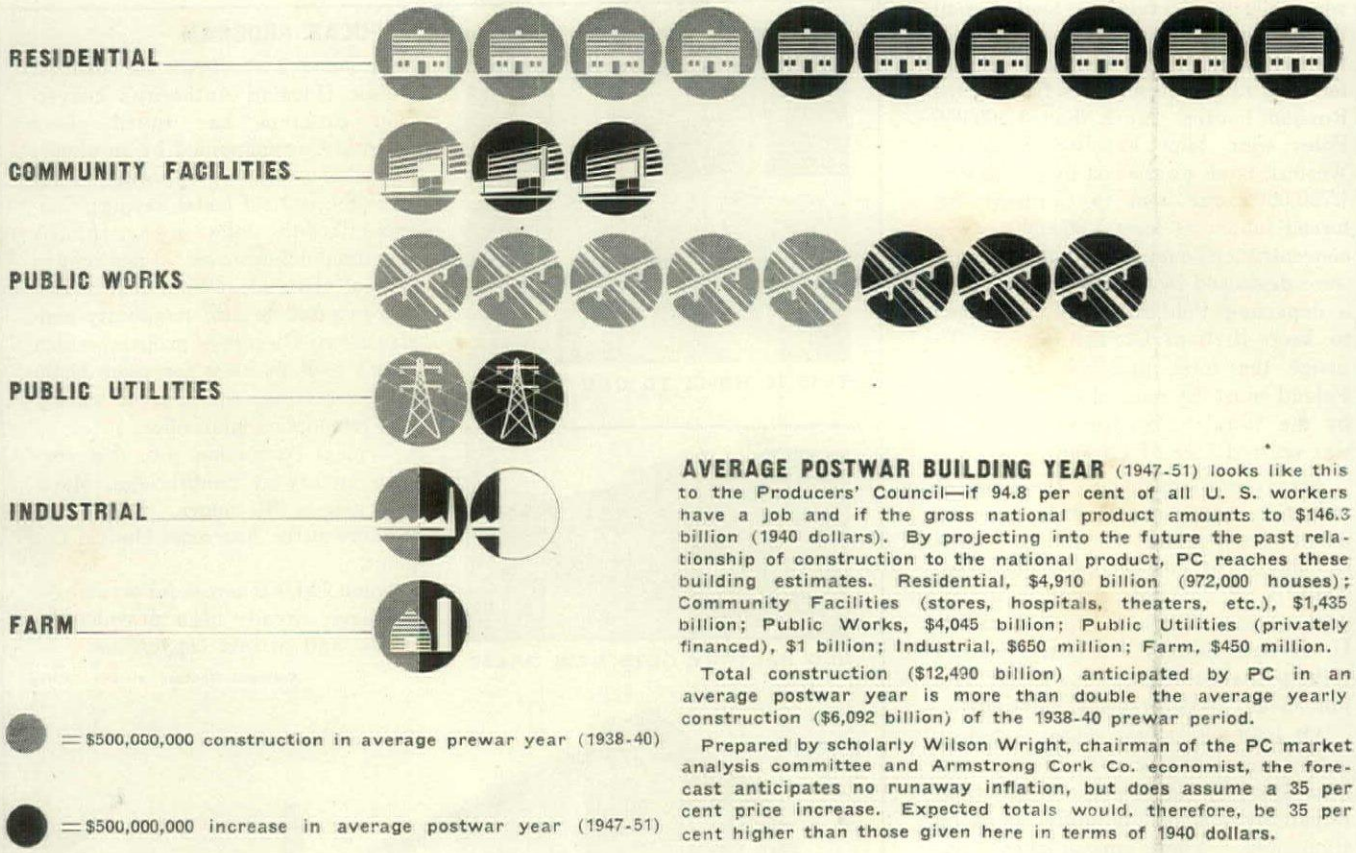
FIRST CHOICE: HOUSES

Big as Building's brightest dreams is the housing market that beckons alluringly from *Fortune's* nationwide look at what Americans want to do with the $84 billion savings now tucked in their pockets. More saved dollars may be spent for homes than for any other product; immediate demand might reach 4,700,000 units. *Fortune's* question, put to a sampling of all income groups: "What one or two things do you plan to buy first when times are peaceful again?" First three choices: A car (21 per cent of those surveyed want one); a house (13.3 per cent); furniture (9.2 per cent). An additional 5.3 per cent plan home repairs.

Of greater significance to Building than the promising but theoretical size of consumer demand revealed by *Fortune's* calipers are the underlying factors that seemingly shape this demand. Biggest vote for a car comes from high income groups; largest part of the housing demand comes from the lowest income group. A vote for a new house looks frequently like a vote against overcrowded urban living conditions. In cities of one million and over population, 16.5 per cent want to build or buy a home; in towns under 2,500 only 11.1 per cent want one; in rural areas the vote drops to 8 per cent.

Widespread demand from the lowest income group for mechanical household equipment and for air conditioning indicates that most Americans have fixed their eyes firmly on an "expanded design for living." If this substantial demand for ampler household convenience is to be channeled back of home purchase, Building must be ready to produce and merchandise a superior product—not merely the shell of a house, but a home completely equipped with all the mechanical facilities.

Size of postwar homebuilding is the favorite current gambit of the crystal-ball boys. From the welter of attempts



AVERAGE POSTWAR BUILDING YEAR (1947-51) looks like this to the Producers' Council—if 94.8 per cent of all U. S. workers have a job and if the gross national product amounts to $146.3 billion (1940 dollars). By projecting into the future the past relationship of construction to the national product, PC reaches these building estimates. Residential, $4,910 billion (972,000 houses); Community Facilities (stores, hospitals, theaters, etc.), $1,435 billion; Public Works, $4,045 billion; Public Utilities (privately financed), $1 billion; Industrial, $650 million; Farm, $450 million.

Total construction ($12,490 billion) anticipated by PC in an average postwar year is more than double the average yearly construction ($6,092 billion) of the 1938-40 prewar period.

Prepared by scholarly Wilson Wright, chairman of the PC market analysis committee and Armstrong Cork Co. economist, the forecast anticipates no runaway inflation, but does assume a 35 per cent price increase. Expected totals would, therefore, be 35 per cent higher than those given here in terms of 1940 dollars.

at measurement, two distinct approaches have emerged. The first seeks to find out how much home building could be financed by the high level of current income that would result from almost total postwar employment (See the Producers' Council over-all construction forecast, above). The second, used by *Fortune*, aims to estimate by public survey how much of the present record level of consumer savings is earmarked for home purchase. Obvious X in both equations is an employment figure higher than the nation has ever known in peace. Unless there are jobs for almost everybody, wartime savings will melt away, the only bulwark most Americans have against relief rolls.

Facing this unknown factor squarely, *Fortune* presents its findings as no exact measure of demand but merely as an index of preferred consumer wants. Selected items:

	"First-choice" demand
Car	21.0%
House	13.3%
Furniture	9.2%
Mechanical refrigerator	8.6%
House repair	5.3%
Washing machine	5.1%
Stove	4.5%
Radio	3.4%
Farm	1.4%

OPTIMISM LIMITED

To the Producers' Council, meeting last month in New York, Building's future began to take on the appetizing shape of a vast postwar sugar-plum. From Leon Henderson came a tart homily: Only good boys get sugar-plums.

PC's market analysis committee had produced a weighty statistical prophecy. While only the most thoughtful retraced the careful deductive reasoning involved, everybody happily nodded approval at the $12½ billion dollar total (1940 dollars) which the committee thought an average postwar building year would bring (see chart). But Economist Henderson briskly jerked happy dreamers back to consideration of the basic PC premise: a postwar national product amounting to $146 billion yearly. Henderson saw little present hope that this optimistic figure would be realized in fact. Reason: The nation's lack of central economic policy for attaining and maintaining a high level of peacetime employment and production. He warned: "We face economic indigestion for which no present belly-ache nostrums are quick remedies. . . The record of stagnation in the thirties still stands as a tragic record of our disagreement on fundamental policies."

Good Conduct Rules. Henderson's proposal for the first-plank in a national postwar platform: Employment security. "If we sincerely accept the potential of $146 billions of gross national product, we need not fear that the cost of underwriting a work warranty would destroy us. . . It should be explicit enough so that citizens would rely on it and make their future plans with confidence in it. It should be strong enough to induce spending of savings when the markets are once again open for purchase and investment.

"The outlines of an adequate (government) fiscal and monetary policy would begin to emerge—a policy to complement and supplement private activity. Such policies as the timing of public expenditures, for example. . . .

"If employment were assured, we could begin to plan now for a postwar tax policy which would encourage consumption. We could plan to leave some of the tax money at home for spending by the individual instead of by the national state."

Building's Sins. For those who look to government money for financing a postwar construction boom, Henderson had a reminder even sharper: "I do not believe for one minute that public construction can be the stabilizer of the economy. Even if public works could have reduced unemployment to manageable limits in the thirties; the necessities of the postwar are too large for public works. Nor do I believe the public would countenance such expenditures in an industry of such waste and monopolistic practices as the construction industry.

"I have always felt that some large part of the restrictive practices by labor and management in construction were due to the feasts and famines of its

(Continued on page 100)

Fairchild Aerial Surveys, Inc.

DODGE CHICAGO PLANT DIVISION OF CHRYSLER CORP.

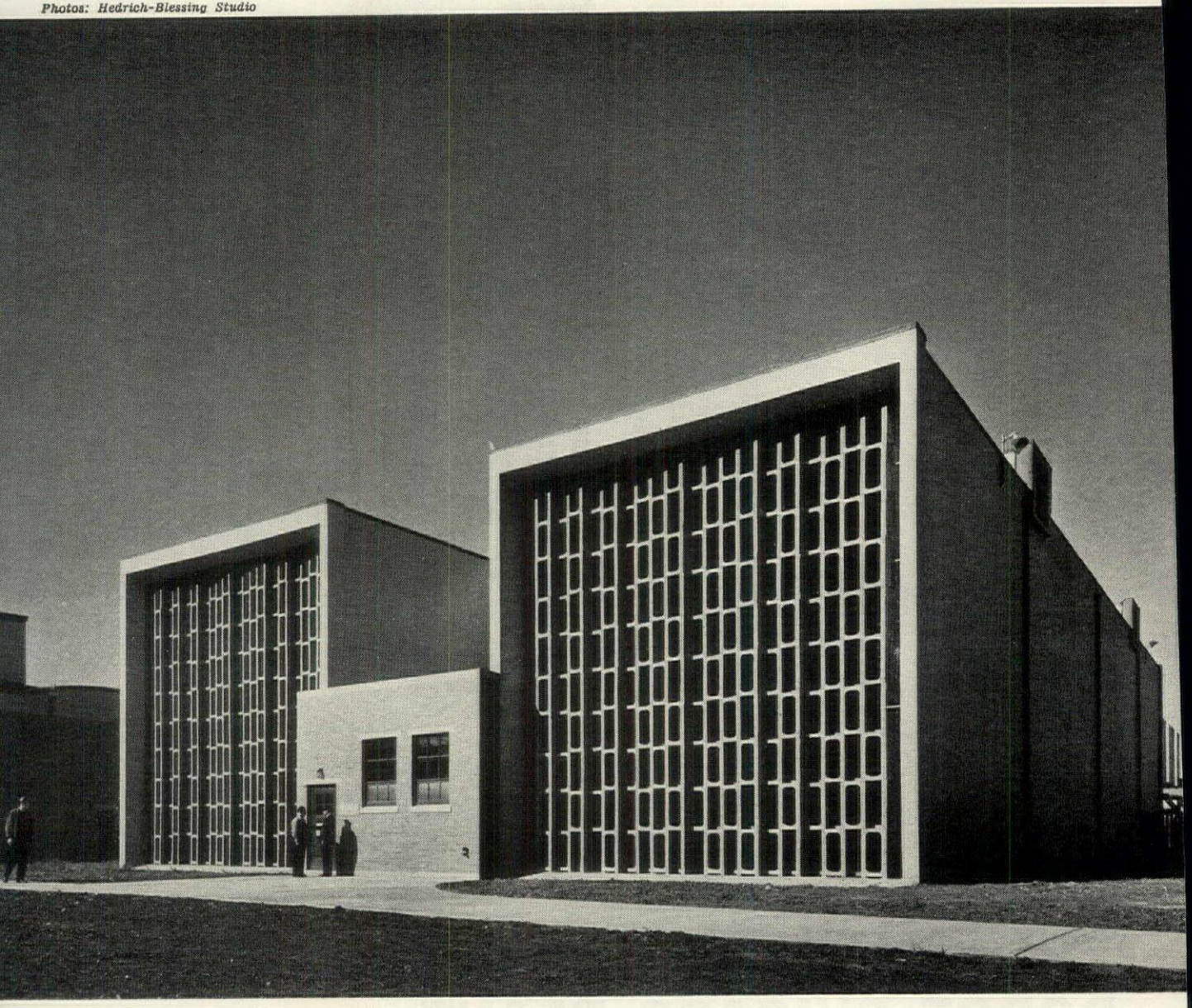
Behind the ponderous front of its administration building stands Dodge Chicago, built big enough in a year to blanket a good-sized town. Now complete, it will shortly go into operation as the world's greatest maker of the most powerful plane engines designed for mass production.



ALBERT KAHN ASSOCIATES, Architects and Engineers, Inc., in cooperation with
AIRTEMP DIVISION, CHRYSLER CORP.
GEORGE A. FULLER COMPANY, Builder
DEFENSE PLANT CORP., Owner

Special structures and equipment have given testing operations accuracy with ever-increasing speed.

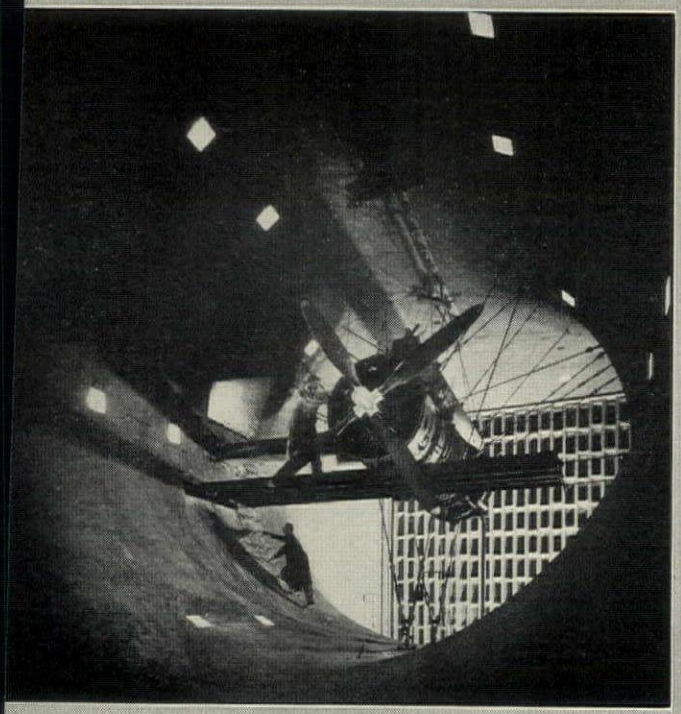
Photos: Hedrich-Blessing Studio



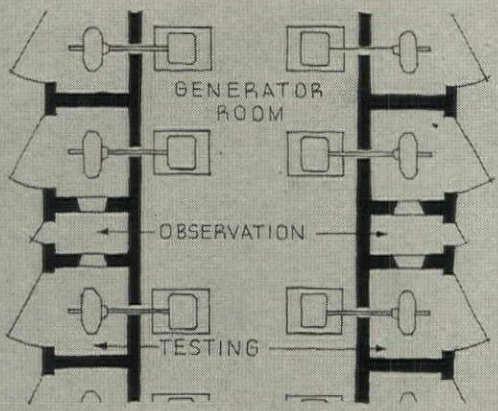
LATEST—and quite possibly the last—of the industrial super-giants brought into existence by the war, the immense aggregation of buildings which together form the Dodge Chicago plant is so large that it can only be described in terms of its predecessors. The machining and assembly building (not the entire plant) has been compared with Willow Run, the Pentagon, the Merchandise Mart: it contains more floor space than any of them.

Anyone who tries to grasp something of the true size and nature of this plant will labor under a double handicap. The airplane views which might create an impression of the whole, the plans and machinery layouts, even details of some of the ingenious circulation schemes worked out—these all come under the head of restricted information. But even in peacetime great difficulty would be encountered because Dodge Chicago, designed for a specific war purpose, has great size, but not great scale. It has none of the conventional glamour normally associated with our spectacular industrial achievements. In Dodge Chicago you will not find any two- or three-hundred foot clear spans continuing for a half mile; there is nothing comparable to the cavernous smoke-filled halls of the steel industry. All this is a reflection of the product: a finished plane engine is small, and its parts are even smaller. There is drama of a new kind in this plant, but it is hard to find it in the buildings.

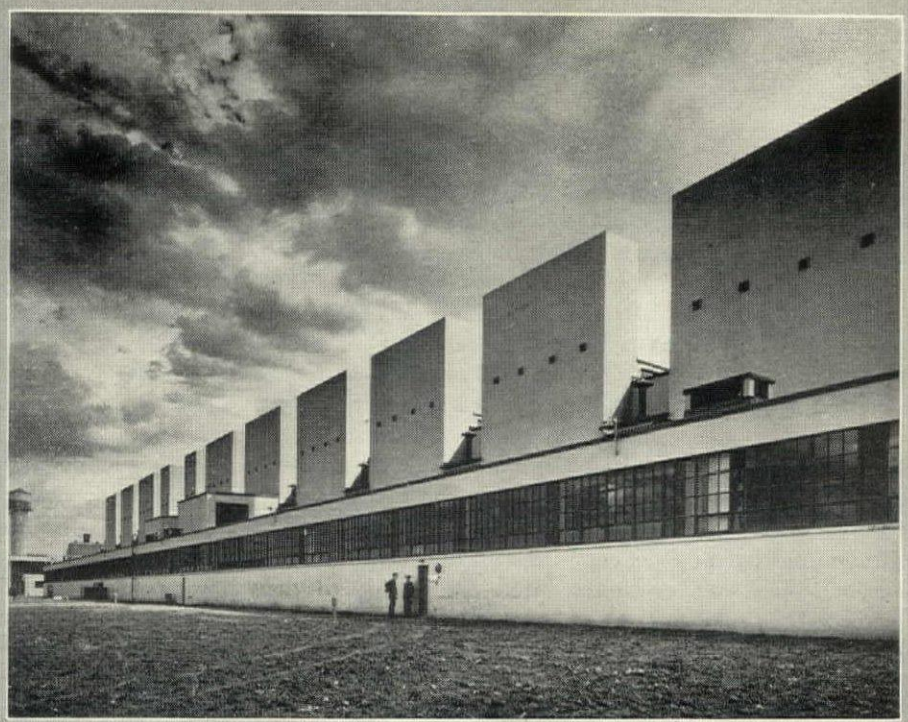
A comparison may make this more clear. If the main building, which repeats a 30 x 38 ft. bay almost a thousand times, were compared to Boulder Dam, it would look like an oversized garage. Boulder has great size *and* great scale, and its visual impact can be felt even in a postcard. But there is another kind of comparison with Boulder Dam, made a short while ago by K. T. Keller of Chrysler, who, incidentally, had a great deal to say about the design of the modest—but vitally important—typical bay. It was a statement on ultimate horsepower production. "The weekly output of engines from this plant," said Mr. Keller, "will have a rated horsepower equal to the entire generating capacity of Boulder Dam." This picture begins to give an inkling of what has been done in eighteen months to 500 barren acres on the edge of Chicago.





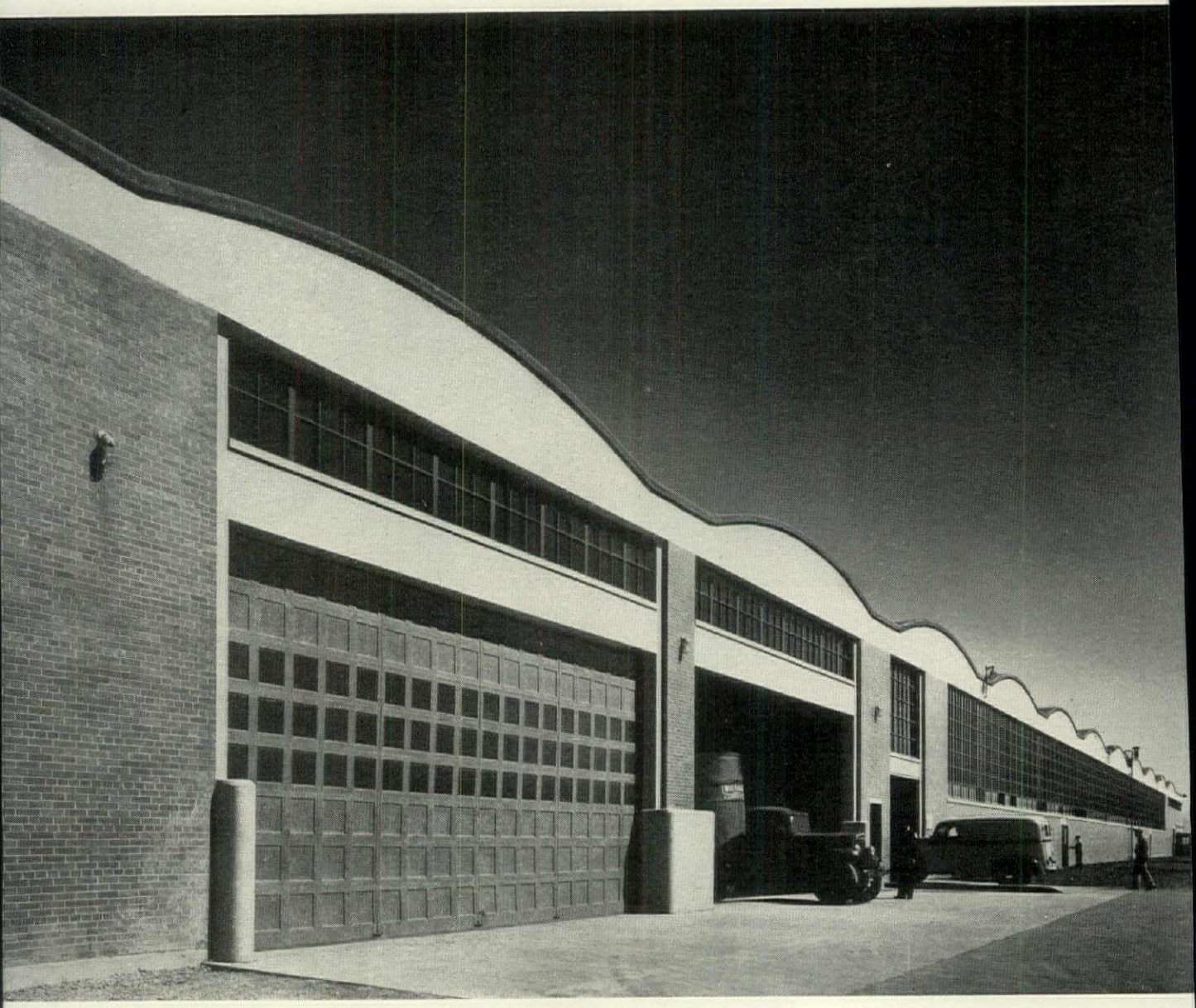






TESTING. Engine testing and some of the related operations have produced the most dramatic structures in the Dodge Chicago plant. The propeller testing building, for instance, which appears on the facing page, and the interior view above, provide an especially interesting example. Equally distinctive in appearance is the engine testing building, with its rows of flat stacks. The testing operations are no different, basically, from those carried on in other plants: the engines are installed in the test blocks, observed in instrument rooms during a run of several hours, and returned for whatever work may be necessary. In the work of installation, however, many improvements have been made to reduce the time of setting the engine up and removing it. The diagram shows the standard arrangement of test cells and observation rooms. Generators tap the very considerable amount of power developed by the engines during test runs.

Characteristic structural unit for virtually the entire plant is the reinforced concrete arch roof.

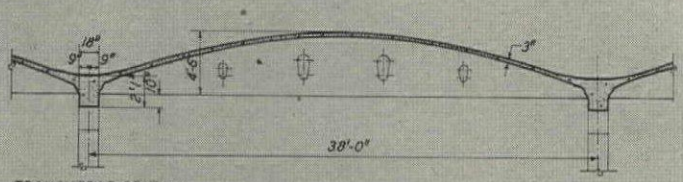


THE Dodge Chicago plant contains a number of buildings of varying sizes and functions. There is a personnel building, a tool shop, an oil and chips recovery unit (largest ever built). Bigger structures include the forge shops, echoing with the crashing of light and heavy hammers, the foundries for aluminum and magnesium, whose overhead conveyors wind round and round like a snake dance after a football game; but biggest of all is the machining and assembly building, which appears here. The difficulties of conveying an impression of size are well illustrated in the photographs of this structure, which covers more than 80 acres. Standing on the ground outside the building, one sees the scalloped edges disappearing toward the horizon; inside is a maze of streets, pipes, machine installations—due to the low roof it is not possible to see very far in any direction.

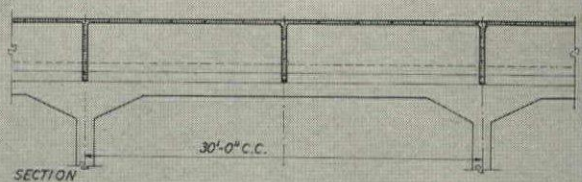
Inside this building sits one of the greatest collections of machine tools ever assembled. Here are performed the innumerable operations of machining, grinding, polishing, hardening, and testing which ultimately produce an 18-cylinder Wright engine of more than 2,000 horsepower.

The large machining and assembly building is a design for production on one floor; below this floor, however, is a level which at times seems almost as busy. The entire basement level is honeycombed with tunnels. There are about ten acres of tunnels, washrooms, cafeterias, kitchens and other services. The major function of these underground services is to reduce production-floor circulation to a minimum. The worker who comes by car, for instance, will stop in one of the parking lots on the property, and go down some steps, identify himself to the guards, pass under the plant fence and the road, and proceed through the tunnel to the assigned locker room. A stair nearby leads up to the production level, and reasonably close to the machine to be tended. By means of this system, the frequent change-of-shift jams are virtually eliminated. Traffic planning at Dodge Chicago has been one of the greatest achievements; for at no point do the two flowing streams—people and products—meet except where they are intended to. Described as two flowplans on separate levels, the solution sounds simple. Nevertheless there are few plants anywhere which can match it.





TRANSVERSE SECTION

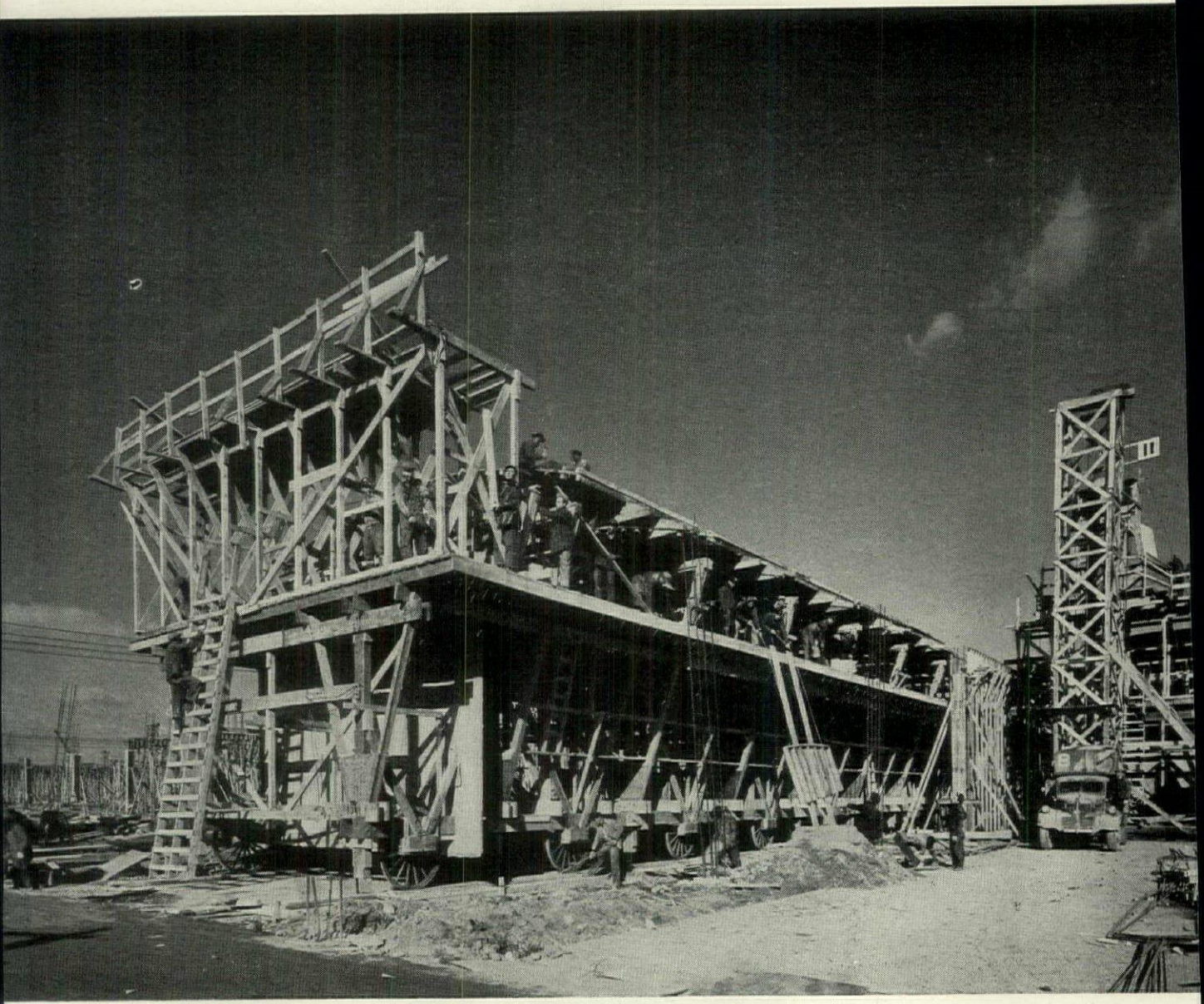


SECTION

STRUCTURE. Most important structural feature of the Dodge Chicago plant is the ribbed concrete arch roof construction, developed in collaboration by the architects, contractors and Chrysler engineers. While this roof is not used universally through the plant, it does cover an overwhelming percentage of the floor space. The design is a most satisfactory solution to the problem of saving materials (it reduced a normal 8 in. slab to 3 in. and saved 40 per cent of the reinforcing steel). Bays produced with this system are a standard 38 x 30 ft. with ribs occurring every 15 ft. A few of the roofs span 60 ft. To construct these arch roofs (one building contains 6,200 separate arches) a very elaborate movable form was constructed, described on the following pages. Despite the enormous amount of floor space to be covered, and the complexity of the construction, the entire building job was completed in about a year.



Construction of Dodge Chicago was one of the greatest organizing jobs in U. S. building history.



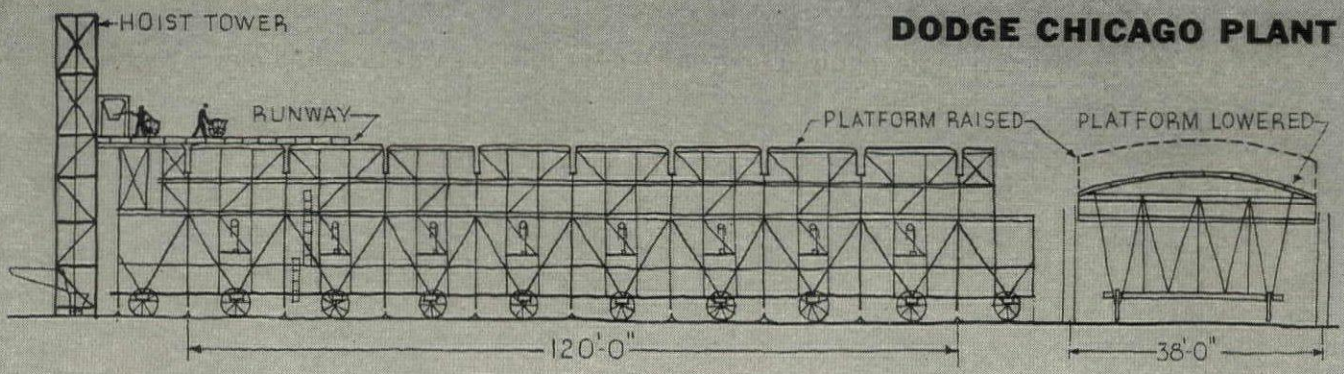
THE flow of materials from the stock piles to the forges and foundries, from there through thousands of machine tools to the assembly and sub-assembly lines, and ultimately to the testing cells and shipping rooms, is a miracle of modern industrial organization. The production story is yet to be told, for machines are still arriving and the plant is going through its period of tuning up. There is another story, however, one of truly epic proportions. This is the tale of Dodge Chicago's construction, a battle against time, weather and, ultimately, the Axis.

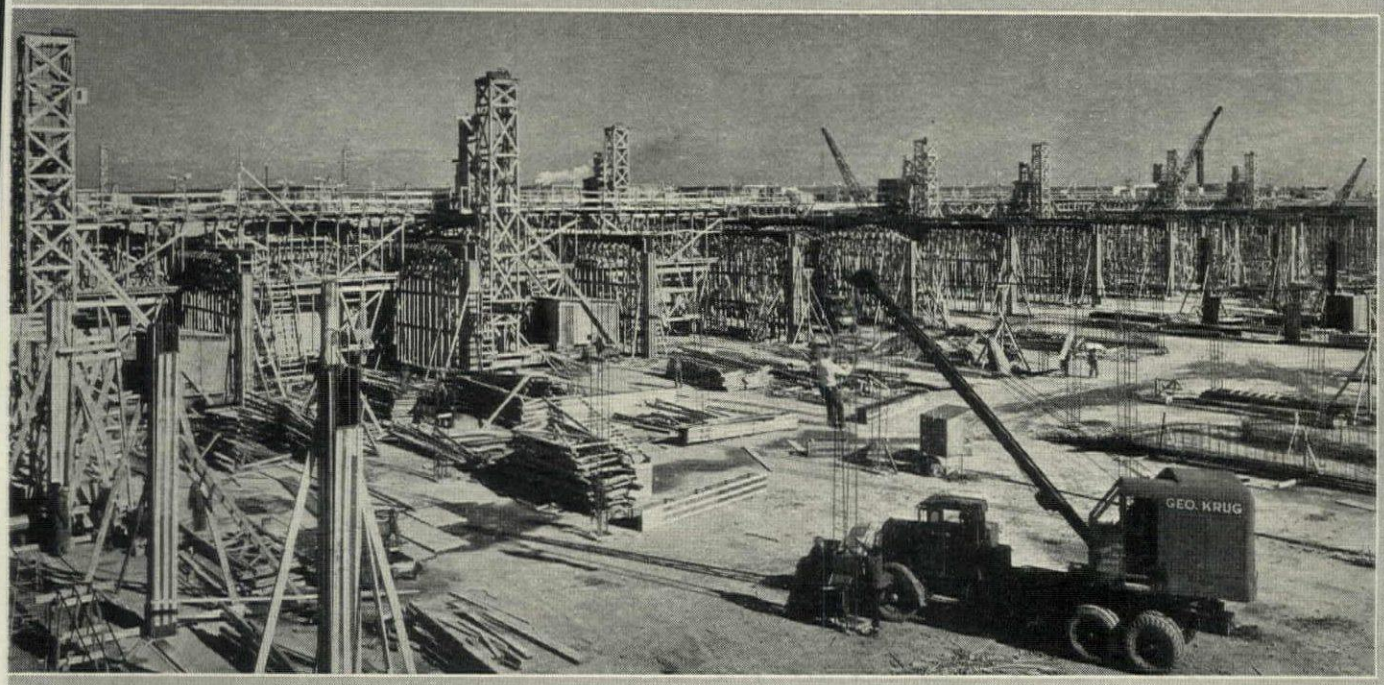
The date of its beginning may be taken as June 4, 1942 (although its design background goes back farther) when Chrysler broke ground for the first building. All through that summer, as more people and more supplies poured on to the 500-acre site, building after building was started. Such was the pace of construction that before foundations were laid in some of the later units, tools and equipment were being installed in the first. Shortly after New Year's Day, 1943, sections of the huge foundries for aluminum and magnesium were being used. Construction of the entire plant took about a year, and this included one building which alone covered more than 50 city blocks.

This phenomenal speed was achieved on a job that was anything but smooth. The plant was designed for steel, was redesigned on WPB order at the last moment. Not only was concrete substituted for steel, according to instructions, but a new concrete design was worked out, saving still more steel and other materials.

With almost 60 of the "Trojan Horses" creaking ponderously across the site during the period of maximum activity, construction must have presented an extraordinary picture. In the progress photographs, the formwork and wooden hoist towers seem to extend to the horizon itself. Workers and engineers liked the structural design and admired its efficiency. One engineer remarked that they could have continued building the concrete arches right across the state, instead of merely covering 80-odd acres. As a matter of fact, there seems to have been some difficulty about stopping them anyway: the completed building shows 3,363 columns instead of the 3,362 called for in the plans.

DODGE CHICAGO PLANT

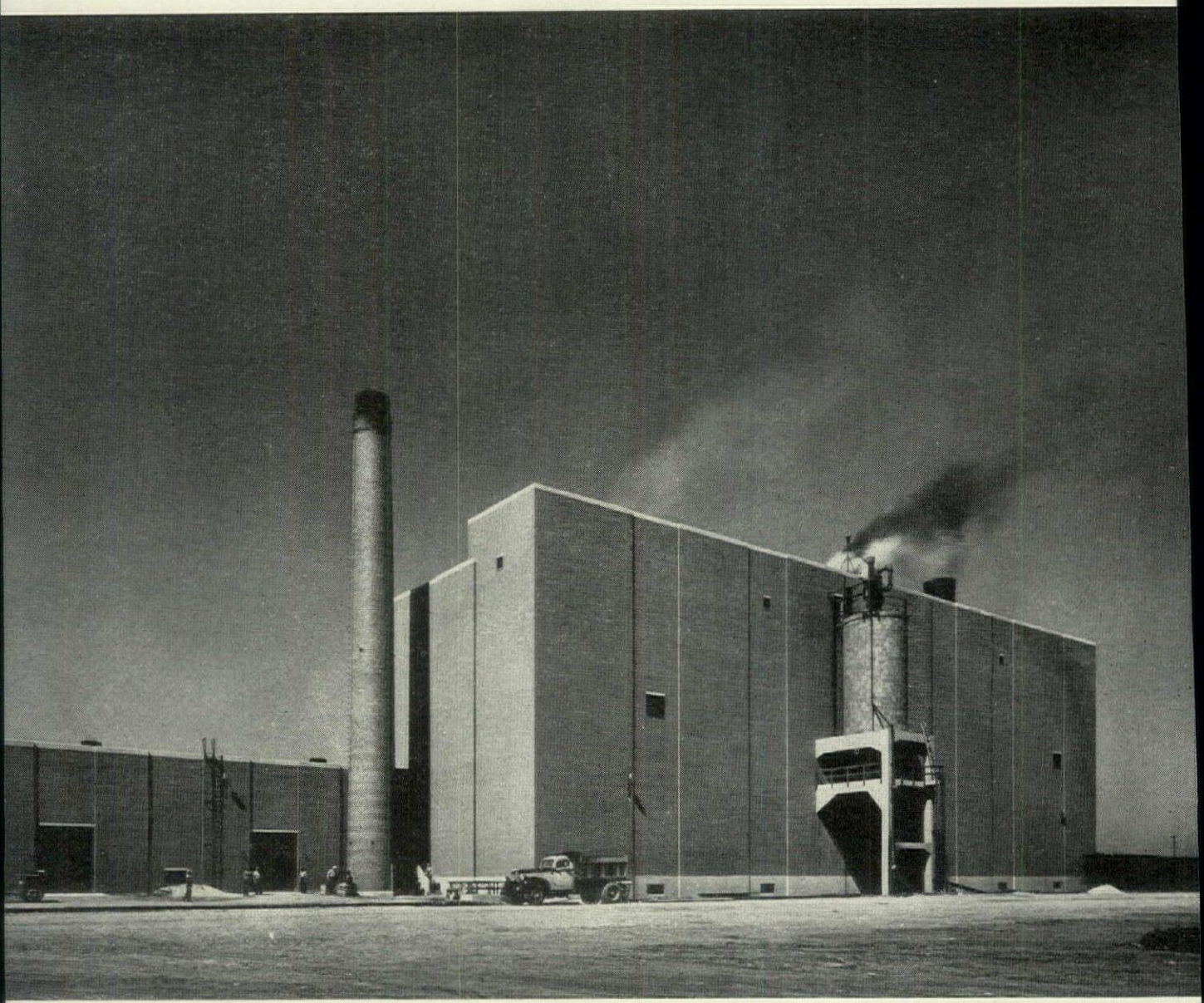




CONSTRUCTION. The magnitude of the building operation is immediately apparent when one sees the construction photographs, which have a scale that is lacking in the completed building. At its peak, the job employed over 16,000 people, and it went on day and night through all seasons and all kinds of weather. Scattered over the site were 60 of the movable forms illustrated on the opposite page. This apparatus, appropriately nicknamed the "Trojan Horse," permitted concrete to be poured in sections 120 ft. long, had its own hoists to raise and lower the roof forms, and was wheeled along on rails. Use of vacuum equipment speeded up the work tremendously: a form could be moved to a new position less than ten minutes after pouring. The photograph at the right shows a number of the forms in place with the reinforcing laid over them. Roofs being poured can be seen in the background. Note integral slots for ribs and beams.



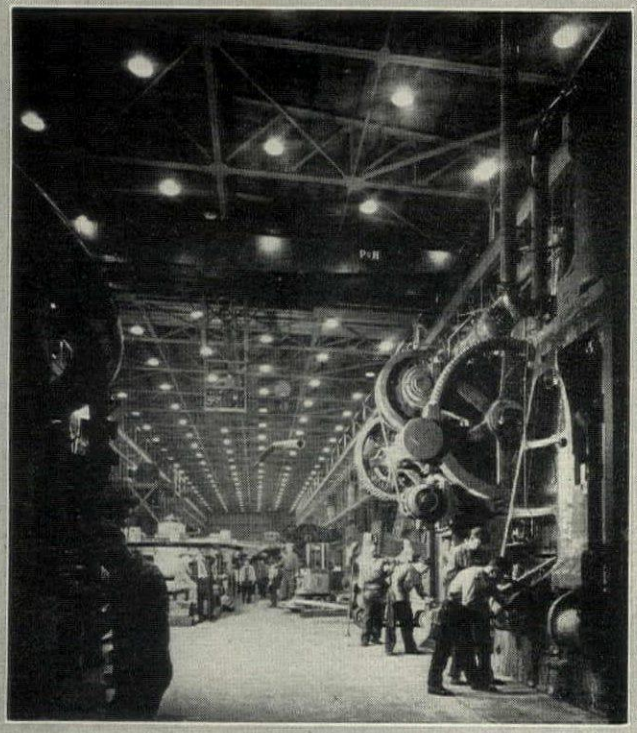
An entire group of structures was required to meet Dodge Chicago's vast heat and power requirements.

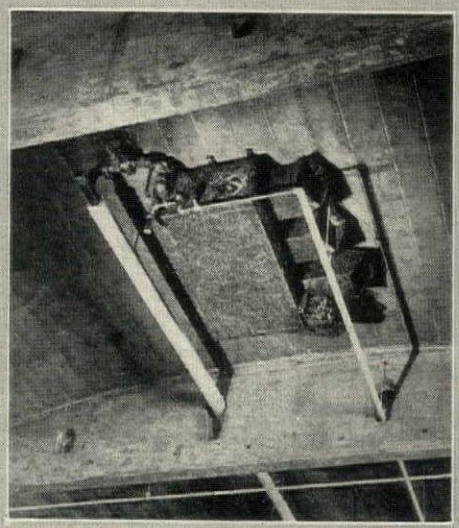


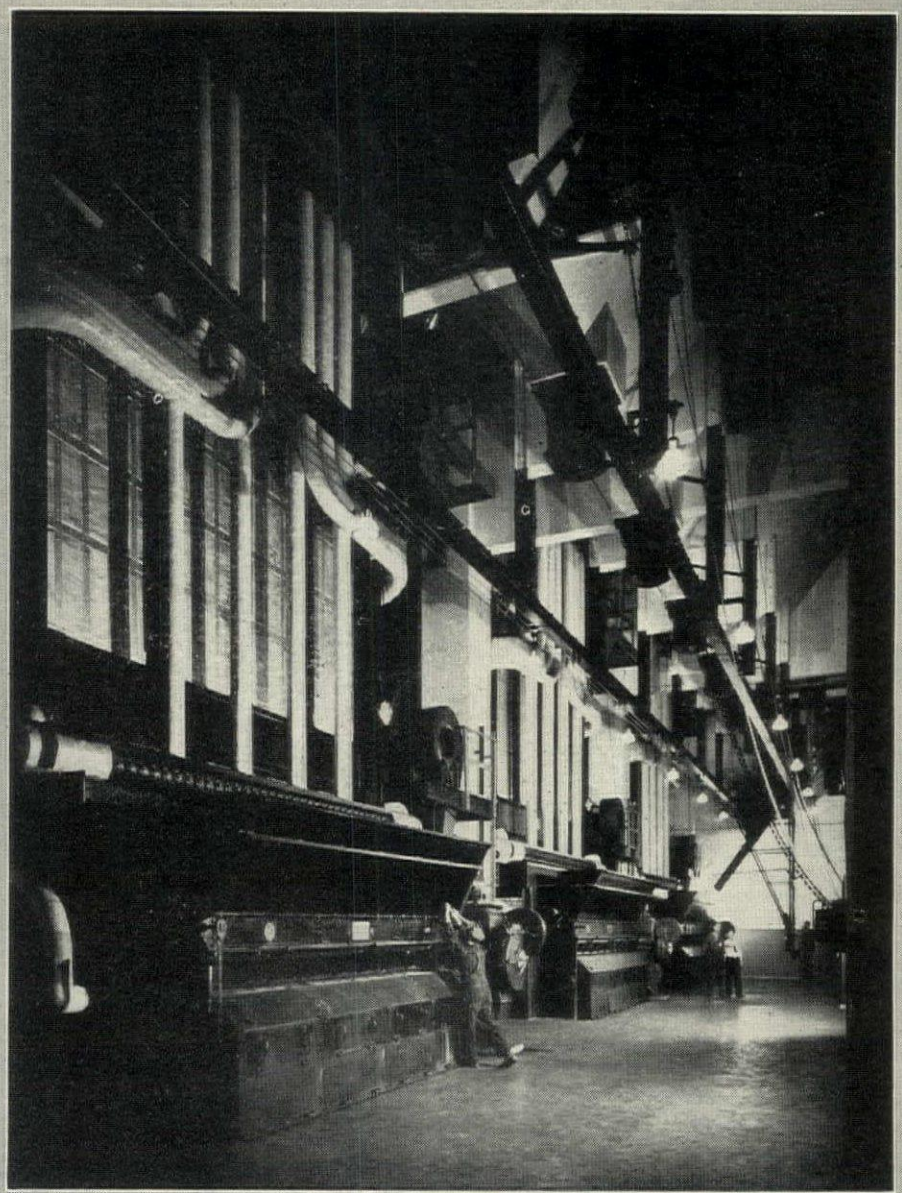
Of all of the plants in the world which make airplane engines, Dodge Chicago is the only one which can take in bars of steel and pigs of magnesium and aluminum at one end and turn out finished motors at the other. This plant *makes* engines— it does not merely assemble them. It is the completeness of this operation, as well as its vast scope that is in large part responsible for the unique quality of excitement which Dodge Chicago possesses. A plane engine, in this factory, can be seen at any stage of its development; every part can be traced from its beginning as a raw casting or forging, to its final place in the assembled motor.

Some of the consequences of setting up an operation of such size and completeness are visible on these pages. A plant cannot put out airplane horsepower with weekly totals equal to the capacity of a Boulder Dam without at some point taking in power in comparable quantities. Here we have examples of buildings that produce it, and units which consume it.

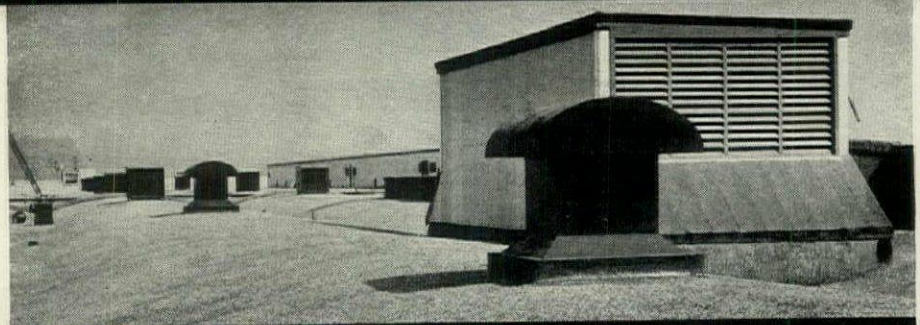
The power plant above, one of the two on the property, is a big building, although this fact is not evident at the site until one gets right under it. It is, moreover, one of the handsomest structures in the entire group: a big, windowless block of red brick accented by the tall stack and the white concrete frame and cylindrical tank. Slight vertical indentations in the walls have been made, with a regular spacing which suggests windows. The architectural designers, in other words, were unable to solve the problem of a windowless building except in the same old terms they were familiar with. The question of design, however, is minor. Dodge Chicago, like its smaller predecessors, has extraordinary design quality which invariably emerges where the engineering problems were most clearly uppermost: a splendid example is the boiler house interior. The dimensions of the achievement of the architects, engineers and builders are to be measured in bigger terms than esthetics. Dodge Chicago is living testimony to U. S. engineering and organizing genius; never was a vital factory built faster or better. And when it gets into full production, not so many months from now, the real significance of the achievement will be read, not in blueprints, but in the headlines.

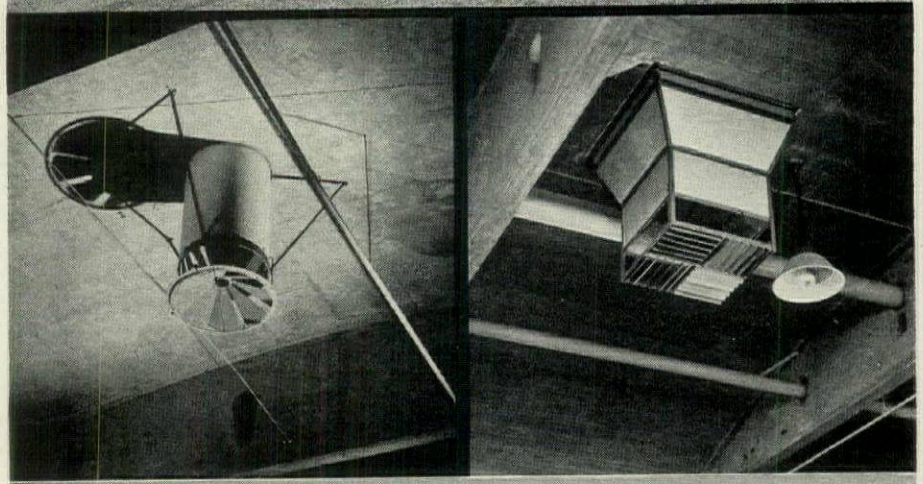




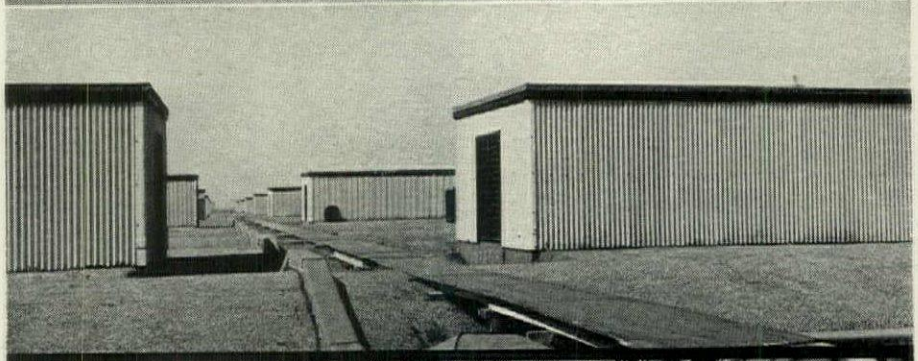


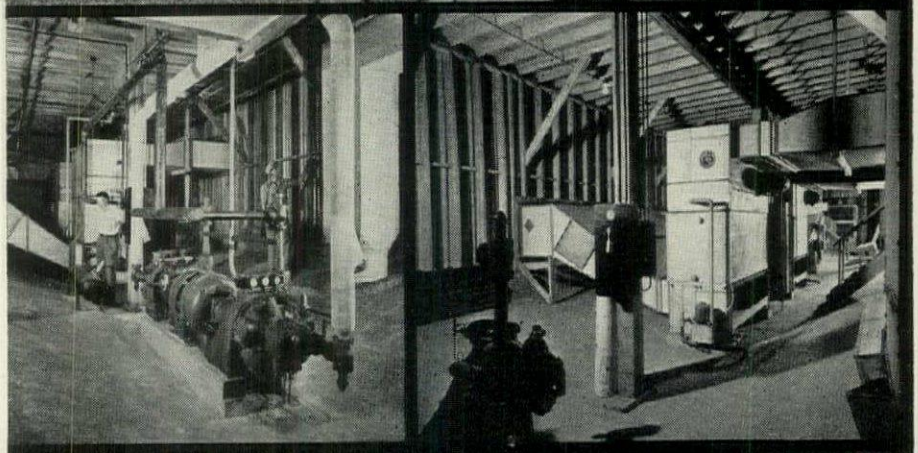
POWER. Steam requirements of a plant like Dodge Chicago, like everything else connected with it, run into very large figures. In fact, when the load was added up by the Kahn engineers it was so high that a decision was made to divide it between two powerhouses. One of them is illustrated here. Steam, in a manufacturing plant, is needed for a variety of operations, of which heating is only one. It is used for the light and heavy hammers in the forge shops (above), for domestic hot water, for laboratories, etc. One of the recirculating unit heaters of the horizontal projection type used in some of the smaller buildings is shown at the upper right. The large interior view suggests the scale of the immense boilers, which are rated for a total steam output of 1,000,000 lbs. per hour. All boilers in both plants are coal burning and stoker-fired. Much of the steam produced is used twice, once for manufacturing, again for heating.

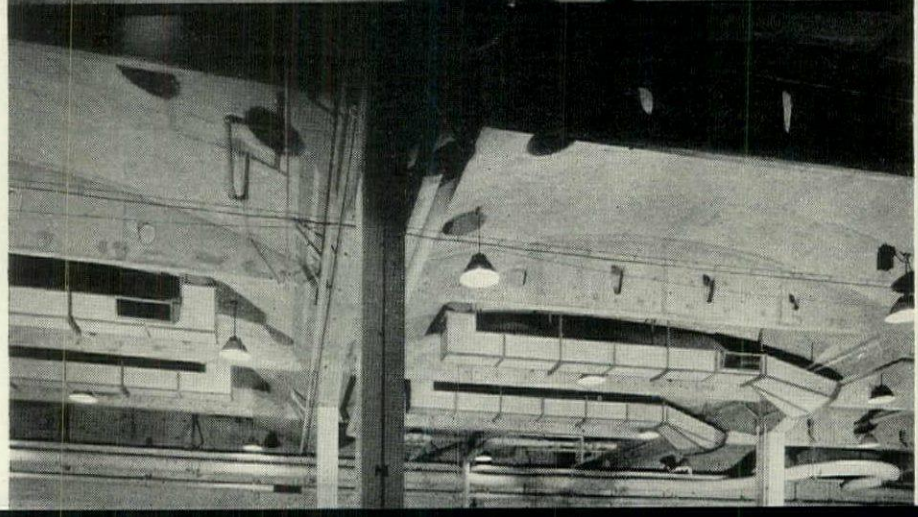












VENTILATION. Both ventilating and air conditioning equipment are housed on the roof. The three photographs at the right illustrate the former. In the top illustration, for instance, both exhaust ventilators and air supply equipment are shown. The louvered housing contains fans, filters and heating coils. Below are a vertical diffuser (left) and a typical blackout ventilating unit (right) which brings in outside air.

AIR CONDITIONING. There are some 80 "packages" on the roof of the machining and assembly building which air condition some twenty-odd acres of production space below. Each unit includes a 75 h.p. radial compressor, evaporative condenser, etc. Taken as a whole they add up to a 5,000-ton system. Photographs show (top) the penthouses, (center left) equipment in the penthouses, (center right) close-up of two evaporative condensers and (bottom) a typical ceiling assembly of drops, ducts, and diffusers. Ducts are non-metallic.

(Construction outline on page 122)



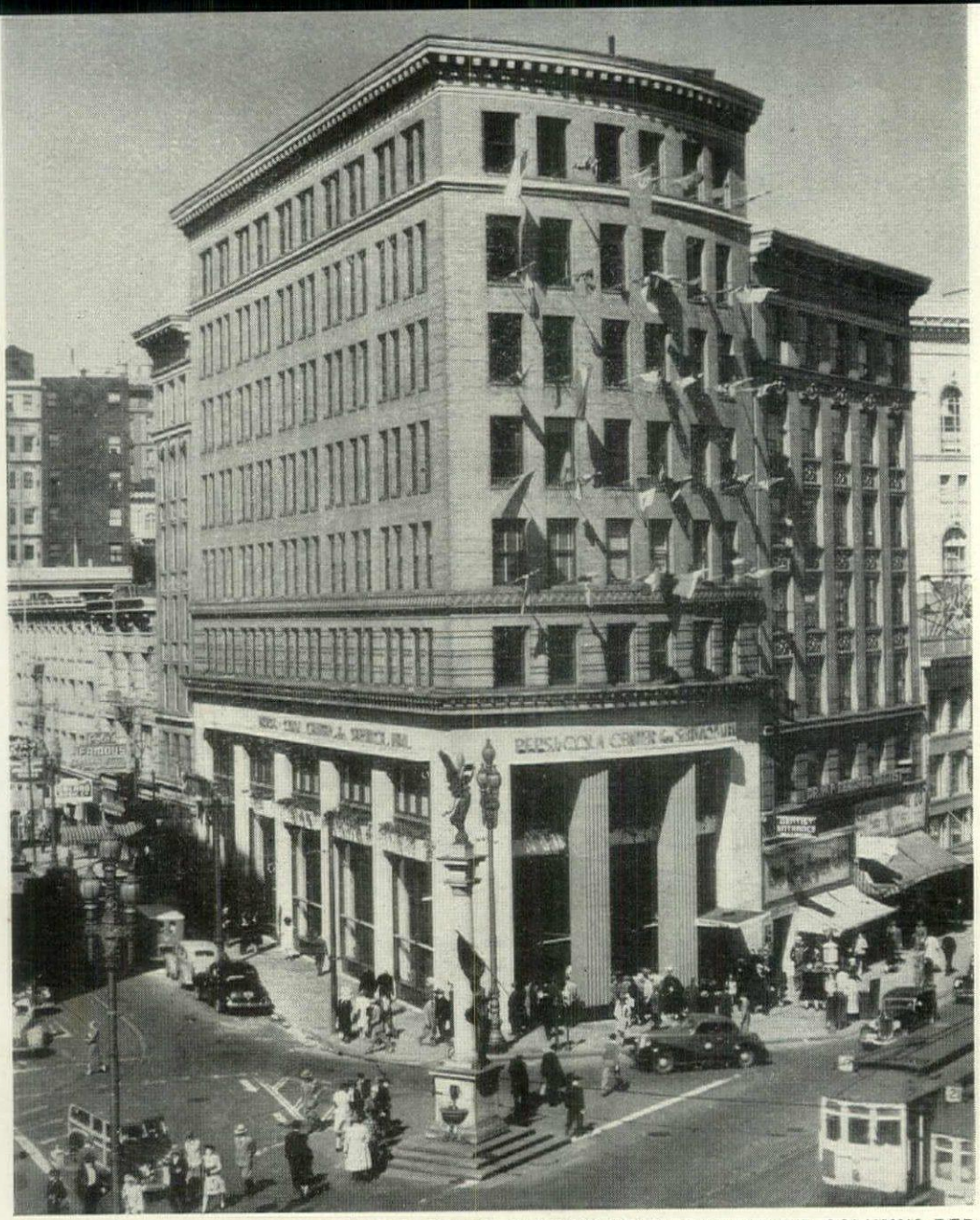
Photos: Roger Sturtevant



PEPSI-COLA SERVICE CENTER

Newest and largest of Pepsi-Cola's "furlough stations," an adroitly-remodeled San Francisco bank, provides facilities for women as well as men.

To its pair of excellently designed and highly successful centers for service men in New York and Washington (FORUM, Dec., '42), the Pepsi-Cola Co. has recently added a third: the Pepsi-Cola Center for Service Men and Women in San Francisco. Designed by the same architects, the new center is housed in an eight-story building once occupied by a bank, more recently by a penny arcade. It is a vast improvement architecturally as well as functionally. On the exterior, ornate neo-classic stonework extending to the level of the third floor was simplified by the removal of projecting moldings, and the Doric columns flanking the entrance replaced by fluted shafts made from wood planks, painted bright red. Cast iron grille work and signs blocking the windows along the side of the building were removed, and the spaces between the columns filled with redwood frames supporting large panes of fixed glass. Beneath the windows, the walls were finished in



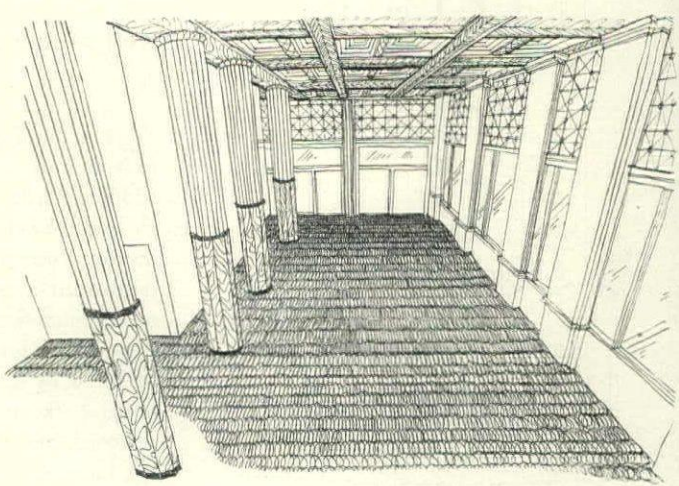
OUTSIDE WAS REMODELED TO THIRD FLOOR. WINDOW FRAMES ARE BLUE, COLUMNS RED

HARRISON, FOUILHOUX & ABRAMOVITZ, ARCHITECTS, MORRIS KETCHUM, JR., ASSOCIATE
GARDNER A. DAILEY, ASSOCIATE ARCHITECT

bright blue tile, and above the windows projecting flower boxes were installed. The upper portion of the building, which was left unchanged, was brightened by a display of the flags of the United Nations. Interiors were altered to conform to the new requirements, and completely refinished throughout.

Operated by San Francisco's Hospitality House Committee, at Pepsi-Cola's expense, the center provides lounge rooms, writing desks, game rooms, information service, shower and dressing rooms, and ironing boards for pressing uniforms. It is open seven days a week from 9 A.M. to 12:30 P.M.

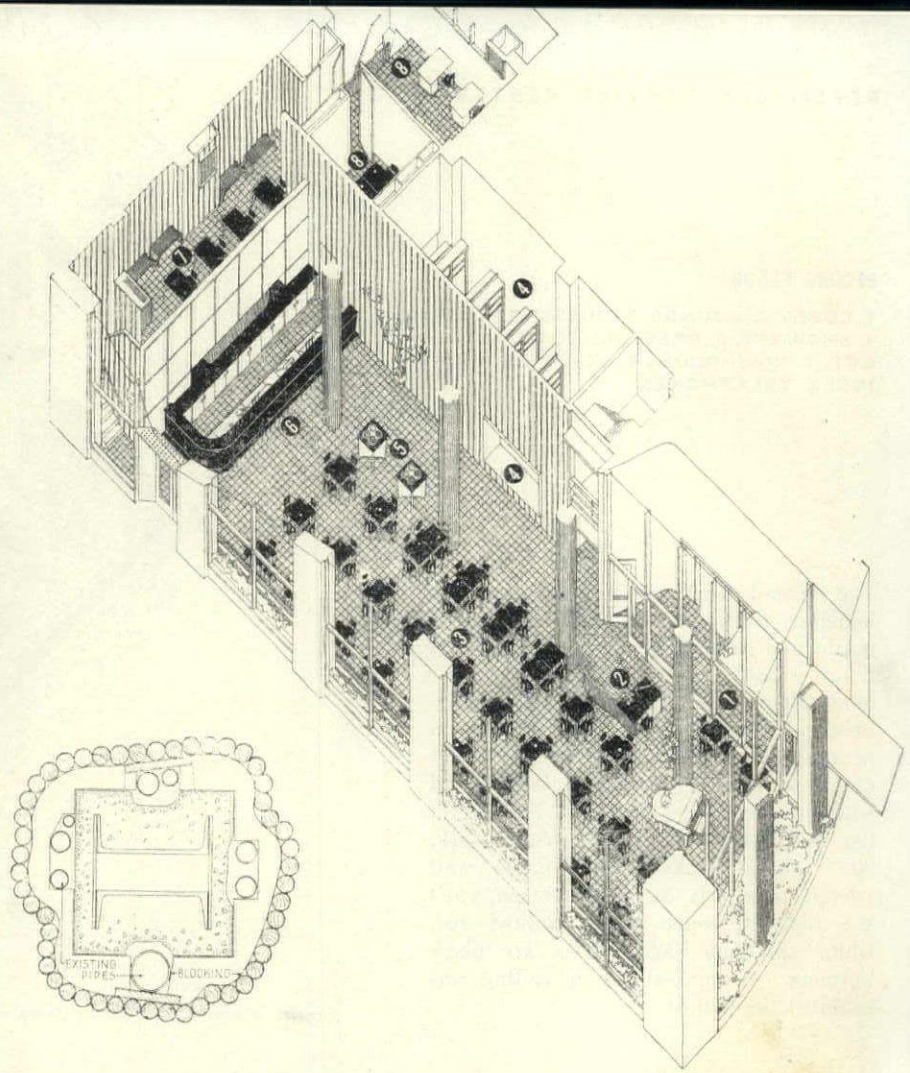
In line with the increased recognition of the women's branches of the armed services, an entire floor has been set aside for the use of WACS, WAVES, Army nurses, etc., with a beauty parlor, showers, game room and other services corresponding to those given the men. The capacity of the combined facilities is estimated at three million men and women a year—or half-again as great as that of the Times Square and Washington centers.



FIRST FLOOR

1. LOBBY, 2. INFORMATION DESK, 3. CANTEEN, 4. CHECK ROOM, 5. RELISH STATIONS, 6. SERVICE BAR, 7. VOLUNTEERS' BALCONY, 8. OFFICE.

On the first floor the large two-story space built as a banking room proved ideal for the canteen. Interior columns along one side of the hundred-foot space were given a new covering made from wood poles (detail right). A new floor was laid, walls were refinished with natural redwood, and the ceiling decorated with another display of the United Nations flags. Table tops are black Formica, chairs are upholstered in blue leather. The service bar at the back of the room serves Pepsi-Cola free, coffee, sandwiches, hamburgers and doughnuts at five cents each. A mezzanine balcony behind the bar provides office space for the volunteer committee which operates the center.



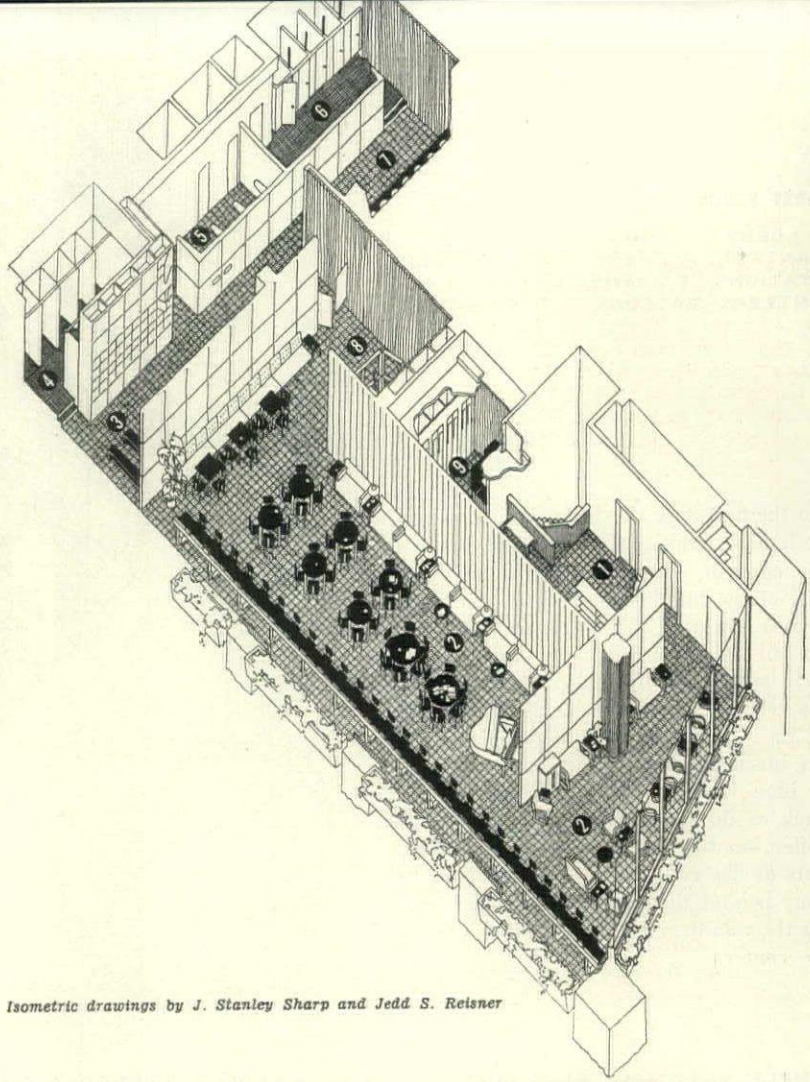
SIMPLE MATERIALS, PLUS LOTS OF LIGHT AND COLOR, TURNED A DINGY SPACE INTO THIS INVITING CANTEEN



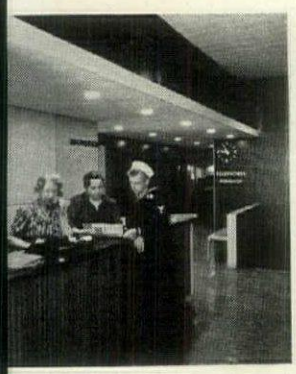
SECOND FLOOR

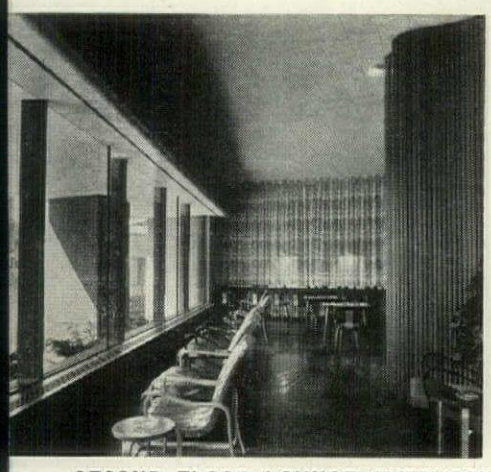
1. LOBBY, 2. LOUNGE, 3. DRESSNG ROOM, 4. SHOWERS, 5. PRESSING ROOM, 6. TOILET, 7. WASHROOM, 8. VOICE RECORDING, 9. TELEPHONES.

The second floor provides facilities for lounging, reading and writing, listening to music and "cleaning up," as well as an information desk and telephone booths for long distance calls. Through adroit planning, all of these functions have been provided for without the necessity for doors to obstruct free circulation, and without sacrifice of privacy. Feature of the design is a continuous writing desk, 80 ft. long, flanking the window wall (detail, page 64). As in the canteen, walls are redwood—some of it painted red, white and blue—and tables are black Formica. A sound-absorbing ceiling was installed throughout.



Isometric drawings by J. Stanley Sharp and Jedd S. Reisner



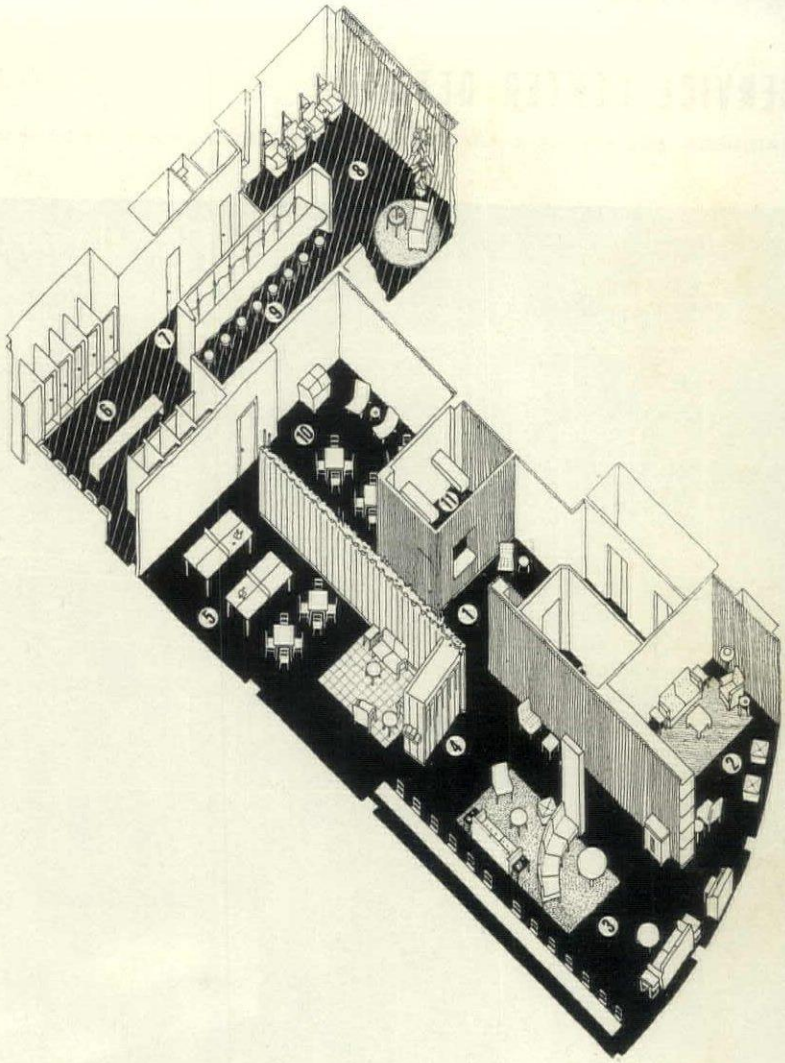




SECOND FLOOR LOUNGE OVERLOOKS STREET. INFORMATION DESK ADVISES ON TRANSPORT AND ENTERTAINMENT

FOURTH FLOOR

1. LOBBY, 2. "MME. CHIANG KAI-SHEK PARLOR," 3. "MRS. ELEANOR ROOSEVELT LOUNGE," 4. TELEPHONES, 5. GAME ROOM, 6. WASHROOM, 7. PRESSING ROOM, 8. BEAUTY PARLOR, 9. POWDER ROOM, 10. REFRESHMENT LOUNGE, 11. CHECK ROOM.



In contrast to the rest of the center, the fourth floor—which is reserved for women auxiliaries of United Nations forces—is designedly soft and feminine. The two lounges, named after Mrs. Roosevelt and Mme. Chiang Kai-Shek, are appropriately decorated in Eleanor blue and Chinese red, while the color scheme of the dressing room is based on a bouquet of roses. with leaf-green walls and various shades of pink. In addition to these facilities. the women's floor offers, free of charge. a fully equipped beauty parlor with driers, shampoo basins, showers, a powder table and ironing boards. The middle section contains a game room and writing desks.



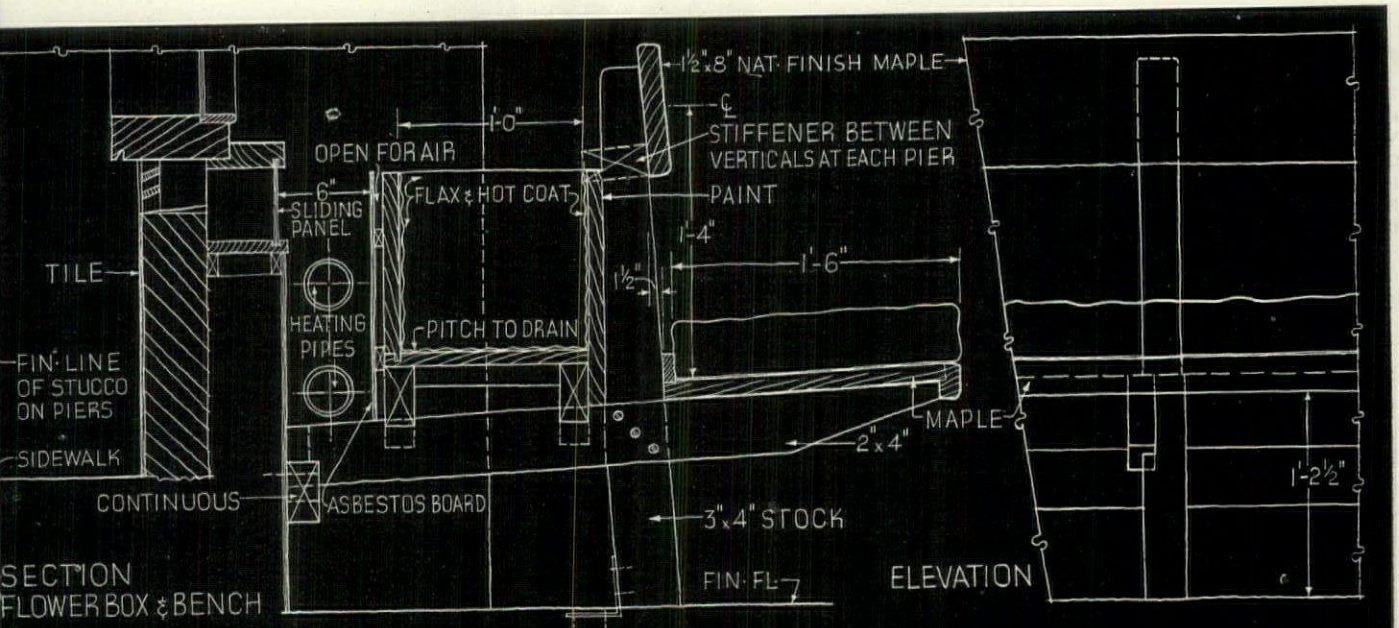


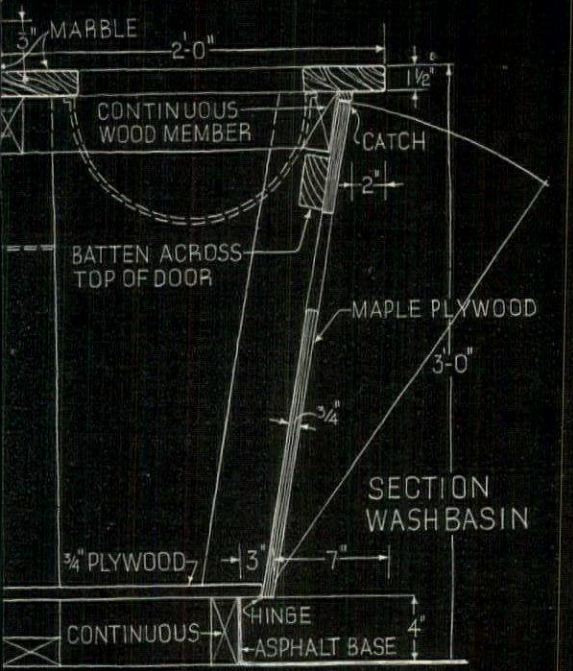


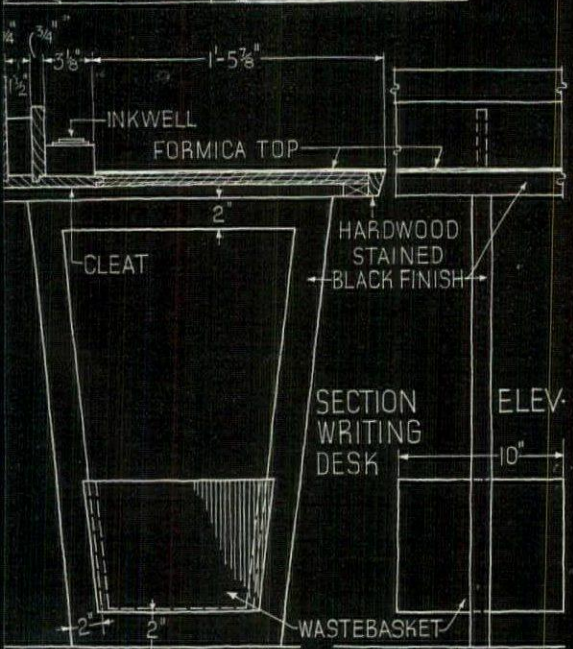
WOMEN'S FLOOR IS A COMPLETE CENTER ON ONE LEVEL, DUPLICATES THE FACILITIES PROVIDED FOR MALES

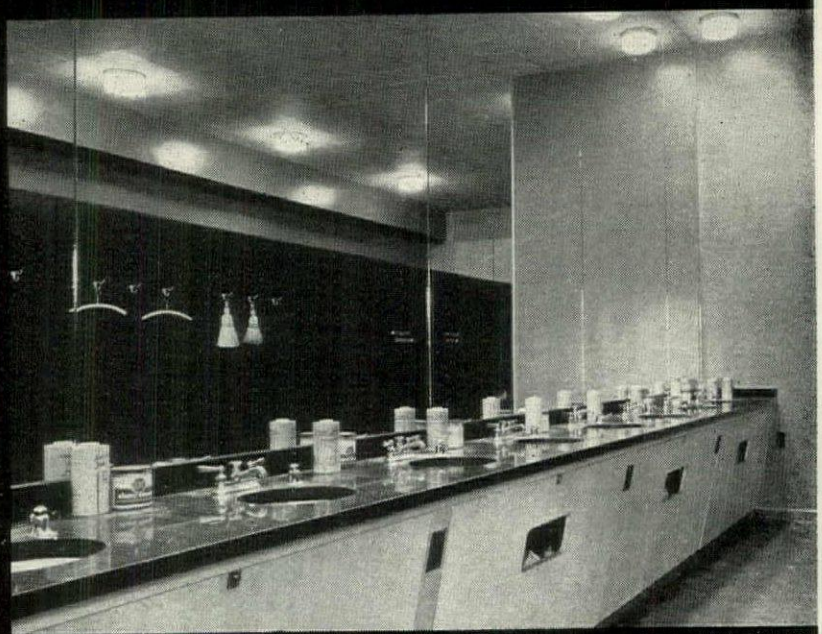
SERVICE CENTER DETAILS

HARRISON, FOUILHOUX & ABRAMOVITZ, ARCHITECTS, MORRIS KETCHUM, ASSOC.





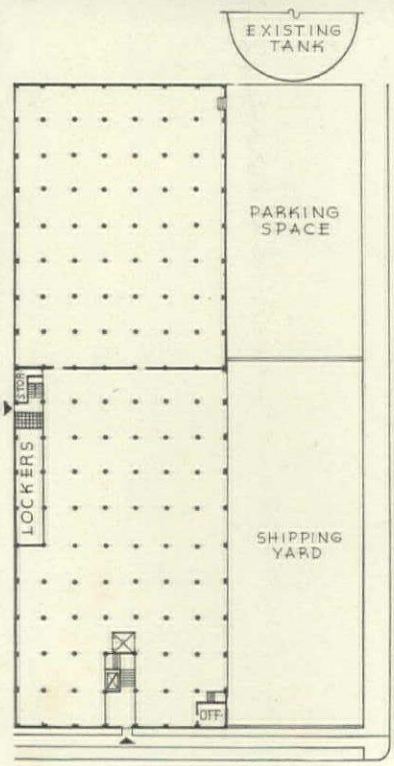








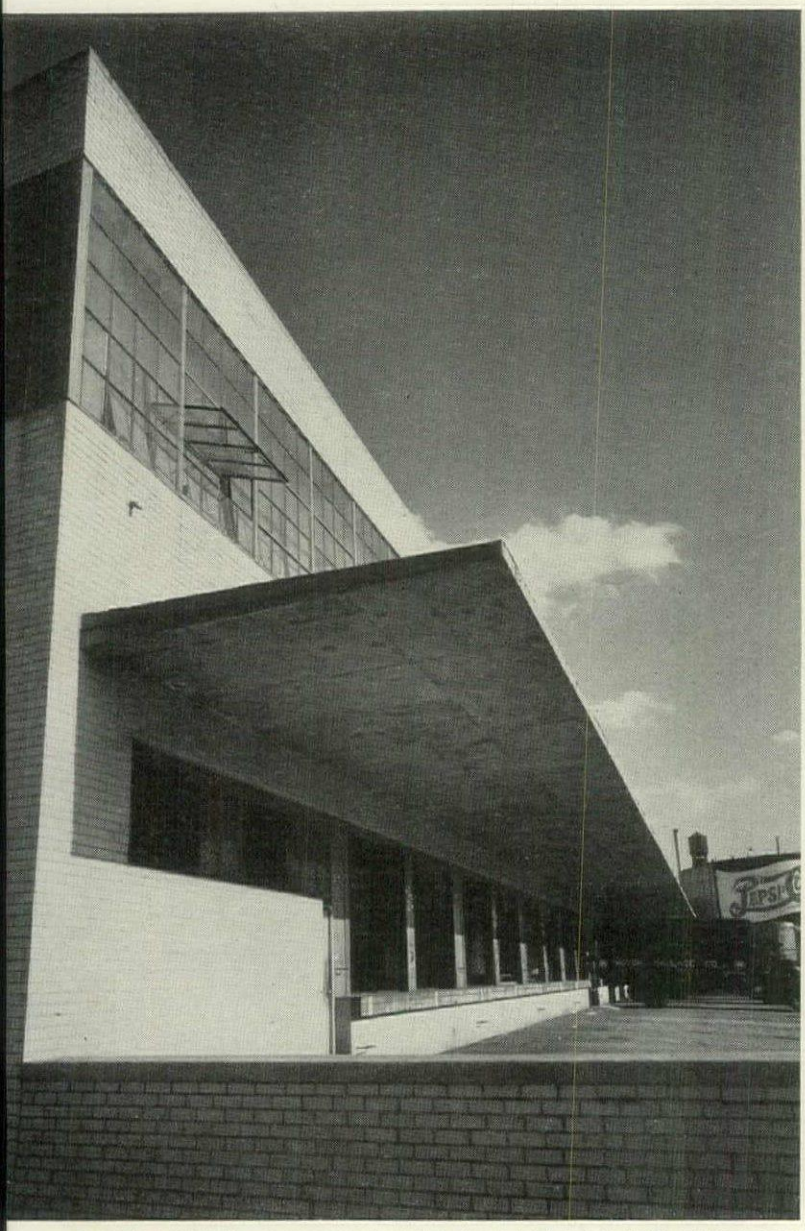
Photos: Ezra Stoller



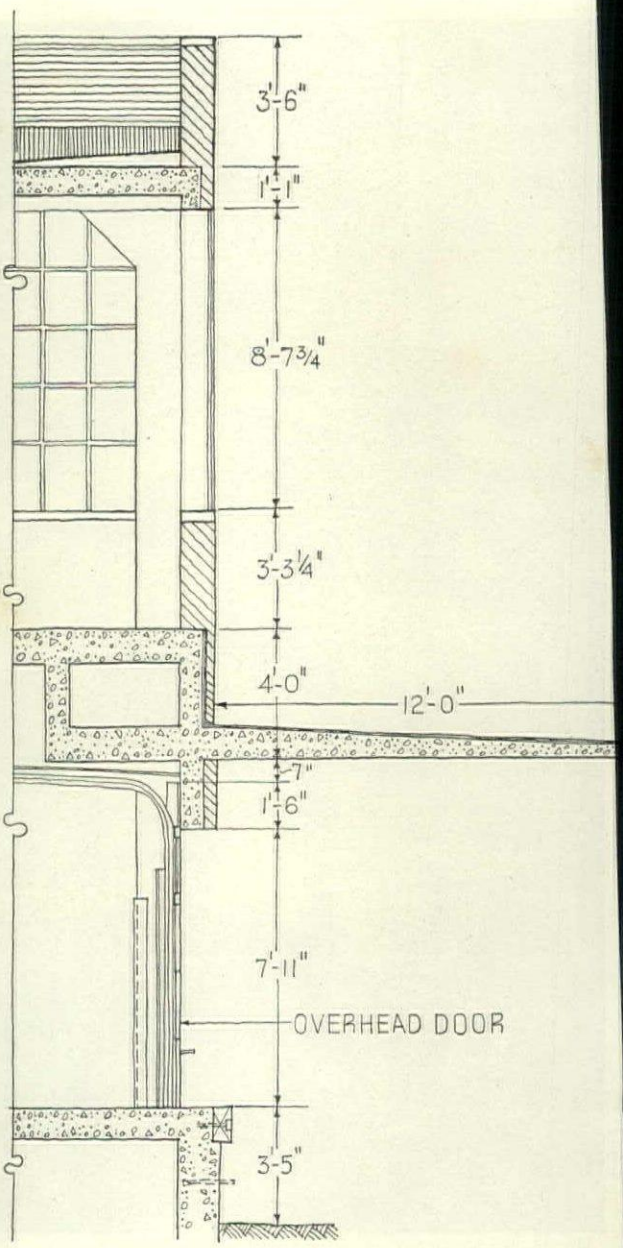
PEPSI-COLA WAREHOUSE, LONG ISLAND CITY, N. Y.

Architects Harrison, Fouilhoux & Abramovitz of the Pepsi-Cola service centers apply the same design technique to a utilitarian structure.

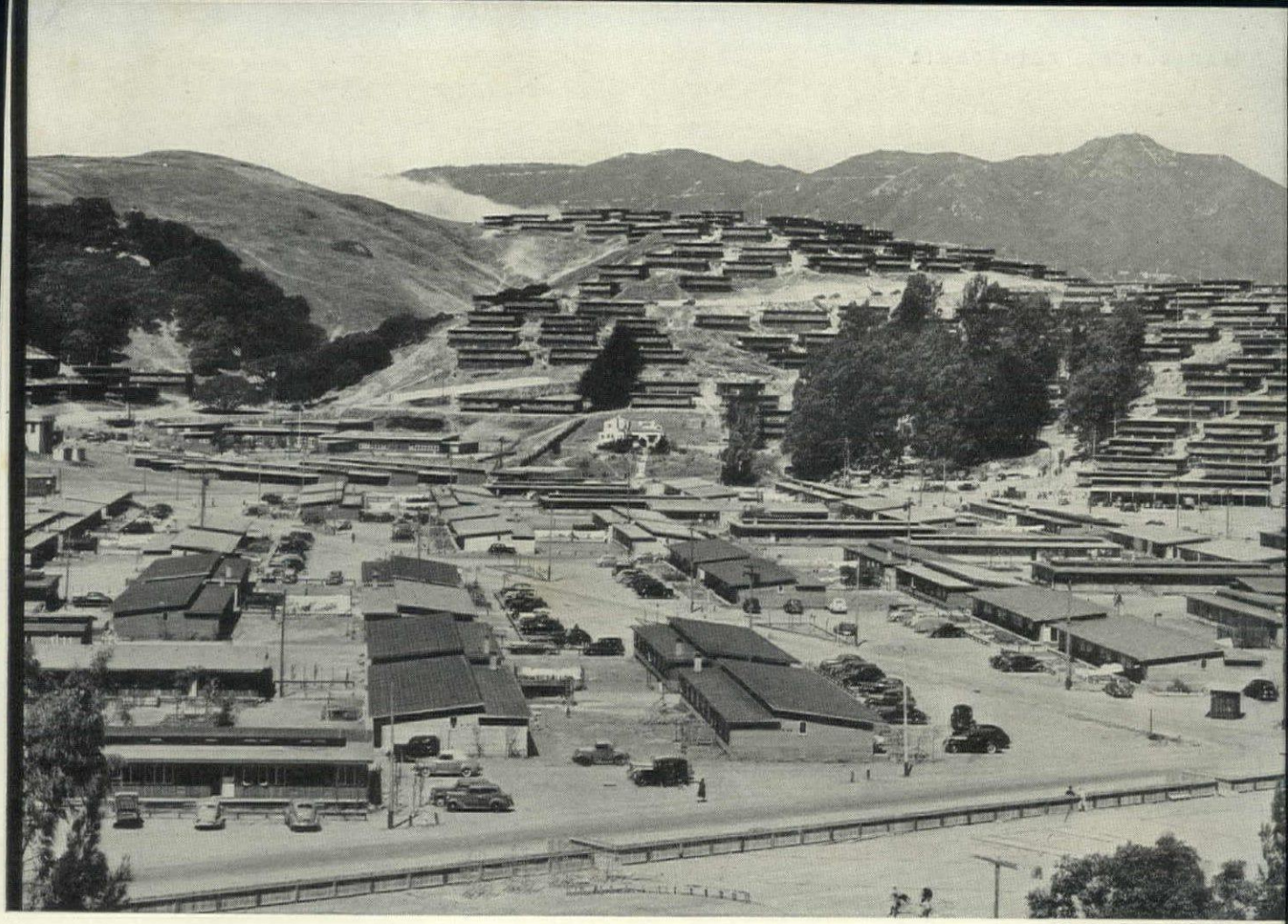
With the foregoing evidence of the Pepsi-Cola Co.'s progressive attitude towards design, it is not surprising to find this warehouse with a definite plus on the design side. Not only is the exterior handsome, the plan is obviously an improvement over the usual practice of placing loading platforms directly on the street, and the parking space for employes' cars a welcome feature. The necessary canopy over the loading platform provides an accent to the design, and has been carried out in reinforced concrete in a way that is both attractive and durable. Columns are set a foot or so back of the outside face of walls, permitting the use of continuous windows flush with the brick facing.



CANTILEVERED CANOPY SHELTERS THE LOADING PLATFORM



The cross-section of the sidewall of the building facing the shipping yard (above, right), shows the thorough integration of all of the elements entering into the construction. The studied relationship between the various parts of the structure not only improves its appearance immeasurably, it also considerably simplified construction and reduced costs. Maintenance, too, is kept to a minimum by the clean surfaces and absence of troublesome joints and dirt-collecting projections.



Photos: Roger Chevalier

MARIN CITY, CALIFORNIA

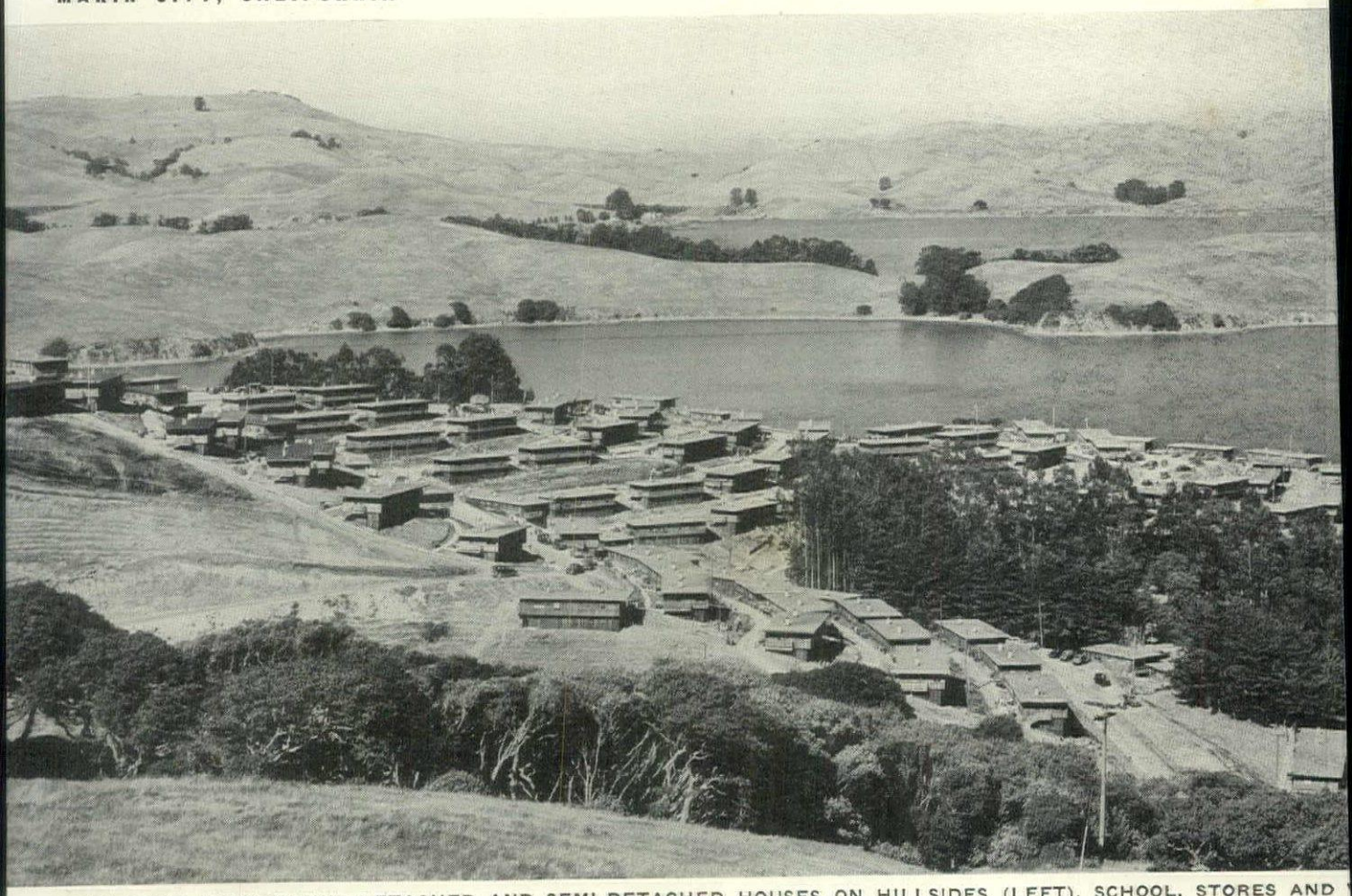
A complete war community (pop. 6,000), built and occupied in less than five months, shows what a local housing authority, with expert technical assistance, can do to satisfy war housing demands.

Until jogged out of its complacency by the impact of total war, Marin County, Calif. was a quiet, conservative suburb of San Francisco, its citizens mostly commuters and retired business men, its homes spacious, cultivated and expensive. It had no "housing problem" of its own, little knowledge of public housing theory or practice. Except for agriculture, there was practically no industry. Above all, there was deep-seated exclusiveness and resistance to change —at one time so strong that the local citizenry protested the "encroachment" of the Golden Gate Bridge on the ground that it would make the County accessible to the hoi polloi.

The war, coupled with the fact that Marin peninsula juts out to form the northern arm of San Francisco's magnificent system of bays and harbors, changed all that. In March, 1942 the U. S. Maritime Commission announced plans for the construction of a big new shipyard—now called "Marinship" —near Sausalito, on the Bay side of the peninsula about eight miles from San Francisco. In June, work began nearby on a temporary war housing project consisting of 700 war apartments, 800 detached and semi-detached houses and (a half-mile from the housing site) dormitories for 758 single men. By mid-November, the project was fully occupied, and within a year Marin County boasted a complete new city—its second largest—with its own self-organized City Council, its own newspaper, the *Marin Citizen*, its own police and fire departments and the largest grammar school in the country.

That Marin City is today a complete and functioning community is partly the result of improvements in public housing policy and administration. It is due in no small measure to the skill of the architects and other technicians responsible for its design and operation. But it is a tribute, most of all, to the planning and foresight of the Housing Authority of the County of Marin, a purely local body of local business men, whose achievement is all the more remarkable in view of the fact that they represented an area that greeted the new shipyard, and the problems it brought with it, with downright hostility.

Formation of the Authority in January, 1942 was inspired as much by the wish to protect the County against the ill effects of wartime population increase as by the desire to solve the problem of war housing. But once the idea of war necessity was understood, it tackled its job with high spirit and intelligence. Fortunately for all concerned, the Authority was appointed three months before the shipyard became a certainty. This practice of keeping a jump ahead of the Federal agencies became a characteristic of the Authority's work, and was largely responsible for its success. A local architect, Carl F. Grommé, veteran of seventeen year's practice as the County's leading designer of medium- and higher-priced homes, was employed almost immediately.



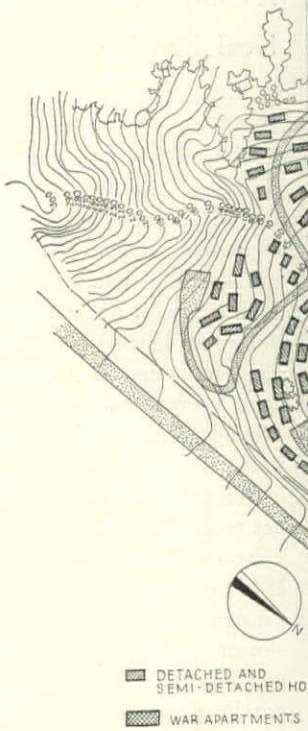
PANORAMIC VIEW SHOWS DETACHED AND SEMI-DETACHED HOUSES ON HILLSIDES (LEFT), SCHOOL, STORES AND

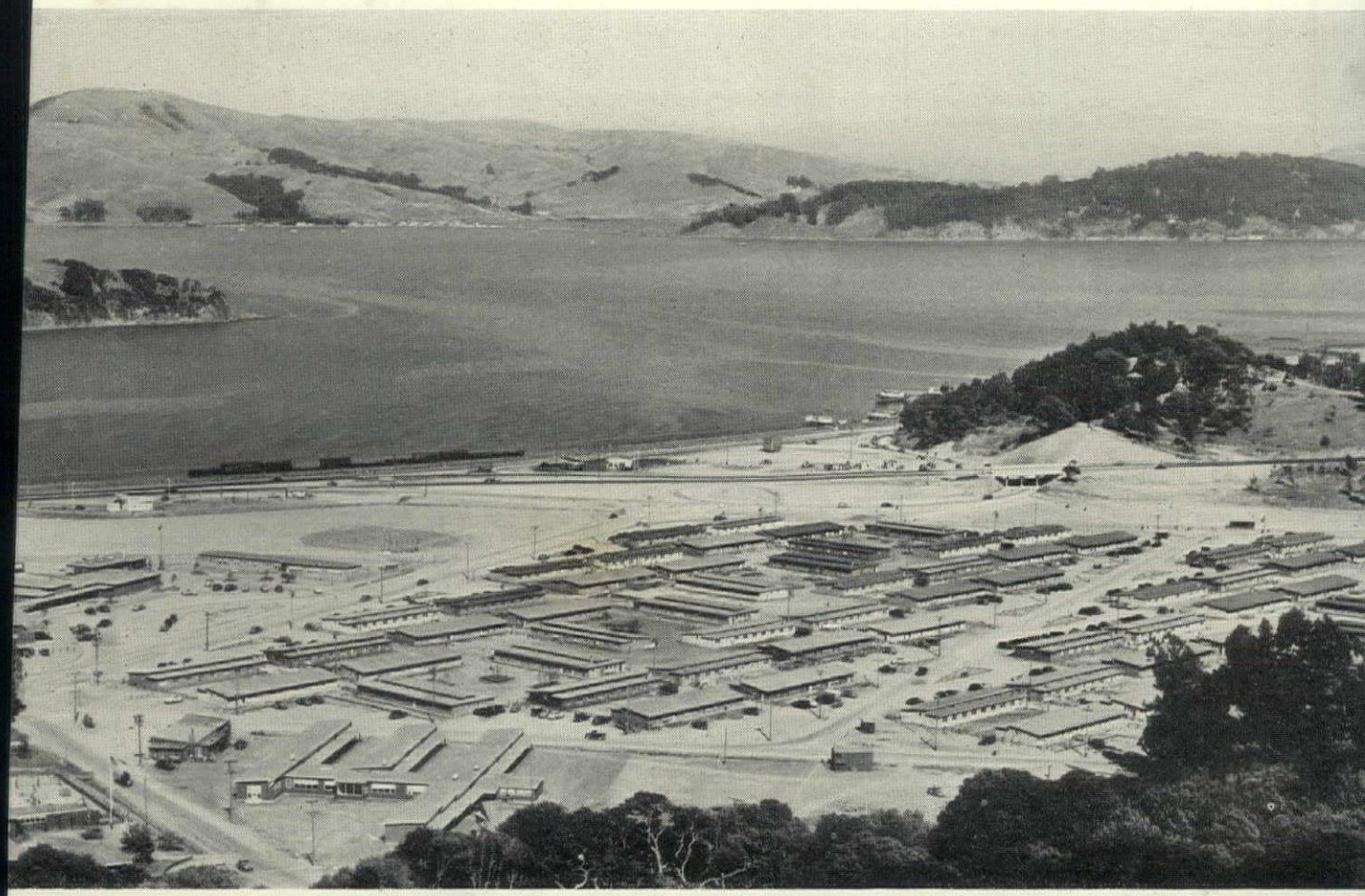
Carl F. Grommé, Architect. Francis E. Lloyd and Hervey Parke Clark, Associates
Thomas D. Church, Landscape Architect
Clyde C. Kennedy, Civil Engineer for site engineering
Albert A. Coddington, Consulting Engineer for water and electric systems
Leibert, Trobock, Leibert & Caletti, General Contractors

By March, Architect Grommé and the director of the new Authority, Guy A. Ciocca, a lawyer and police judge with no previous housing experience, had selected the only possible housing site: a 60-acre marsh surrounded by high hills, on the bay side of the peninsula near Mt. Tamalpais, the Bay area's highest peak. Site studies proceeded with the cooperation of the FPHA and the Marin County Planning Commission, and were virtually complete by the time the National Housing Agency, on June 5, announced the assignment of the needed housing.

On June 15, site planning working drawings, site surveying and grading began almost simultaneously. Within five weeks, 463,000 cu. yds. of earth fill from the nearest hills had been moved into the salt marsh, leveled and compacted. Meanwhile, Architect Grommé and a team of fourteen including crack San Francisco designers Hervey Parke Clark and Francis E. Lloyd were working night and day adapting the standard FPHA war apartments and temporary houses to local conditions and preparing working drawings. On June 30, mud sills for the first eight war apartments were laid.

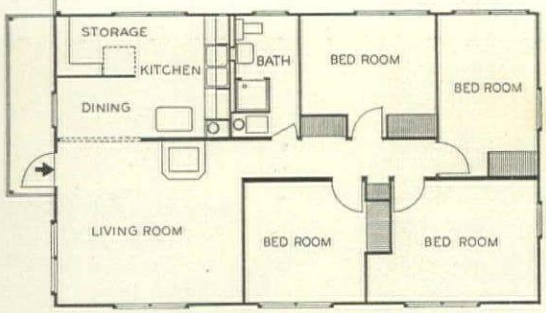
The plan of the lower part of the project was controlled by the approach from the highway—a main north-south traffic route—creation of a buffer play area between the dwellings and traffic noises and the requirements of the commercial and public buildings. It was largely determined by the bowl shape of the central area and the one possible location for the future traffic overpass (later built by the California State Highway Commission and the Federal Bureau of Roads as a permanent improvement). Because of their location on level land, it was possible to face most of the war apartments towards the bay to the northeast. The arrangement of roads in the upper part of the site was dictated by the topography. As many as possible of the houses were placed on easterly slopes for protection from west winds prevalent in June, July and August, and to shield the units from the coastal fogs of the same period.



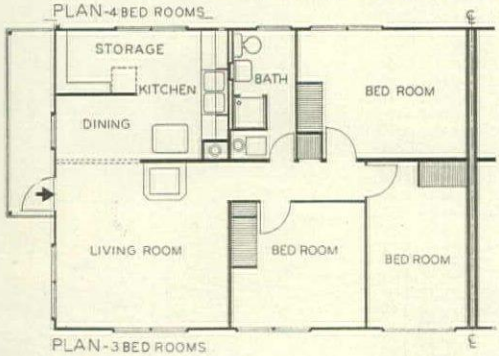


RTMENTS ON FILLED-IN MARSH AT CENTER. ANOTHER GROUP OF HILLSIDE HOUSES IS BEYOND PICTURE AT RIGHT

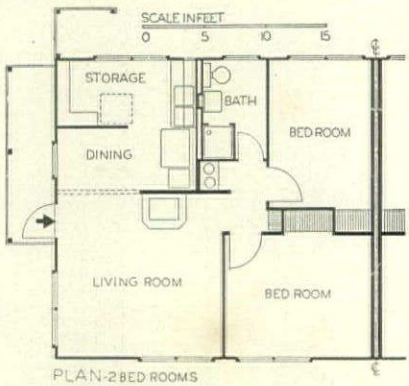




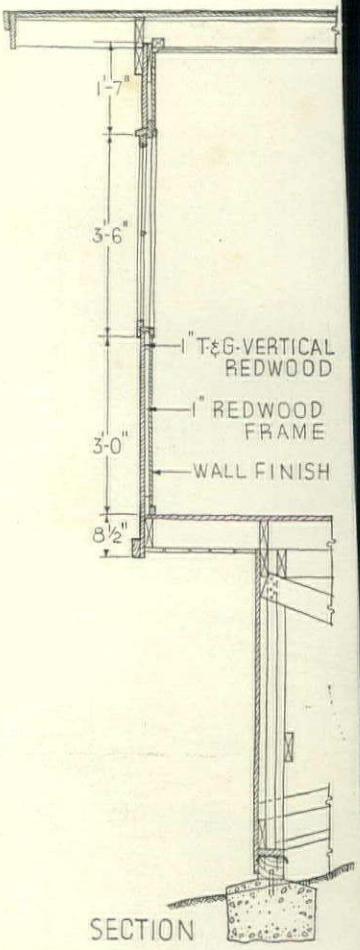
PLAN-4 BED ROOMS



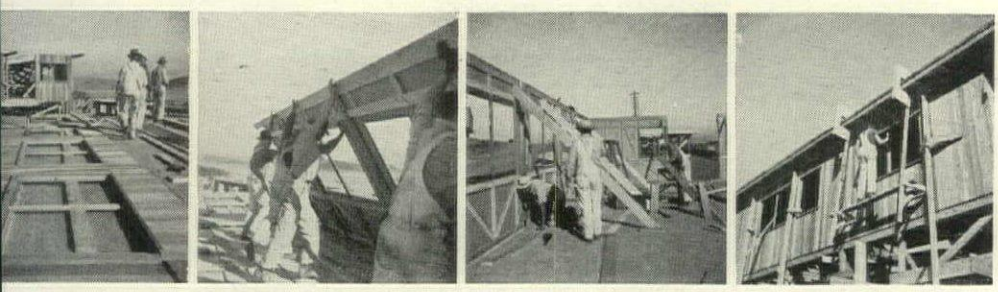
PLAN-3 BED ROOMS



PLAN-2 BED ROOMS



SECTION



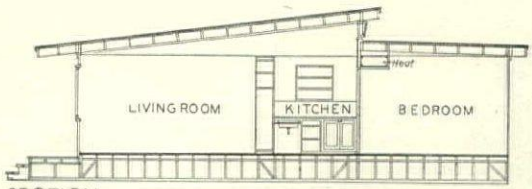
SITE PREFABRICATION WAS USED FOR THE PANEL WALLS, DESCRIBED BELOW

Houses and war apartments were based on standard FPHA plans, adapted to local climatic conditions and materials.

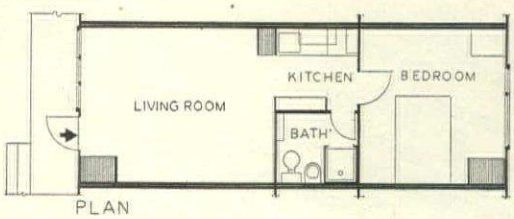
Three types of temporary houses were used on the hillsides: two- and three-bedroom semi-detached units and four-bedroom detached dwellings. The plans adhere closely to those furnished by the FPHA, except that flat roofs have been substituted for the usual pitched roof and small porches have been added. No grading whatever was done to fit the houses to the steep grades, which in some cases exceeded 30 per cent. Instead, houses were set on concrete piers extending 6 to 8 in. into the underlying hardpan, with frame understructures secured to redwood blocks imbedded in the soft surface of the concrete and secured with inverted spikes.

Exterior walls of all of the houses consisted of panels of 1 in. t. & g. redwood placed vertically and stiffened with 1 in. strips on the back. No other wall framing was used except for a beam running around the outside of the wall at the top. In place of the usual studs, this wall gets its stiffness from the fact that it is secured to the flat edge of the floor framing at the bottom, and the broad face of the beam at the top, acting as a sort of double cantilever.

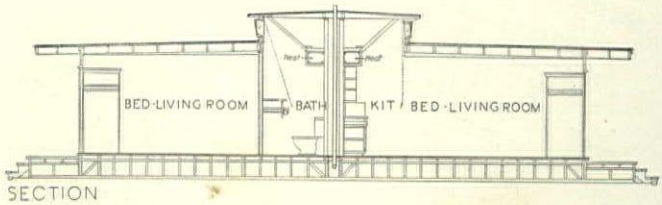
The war apartment units, placed on the level fill at the center of the project, represented a considerable improvement over the standard building of this type owing to the introduction of monitors which light and ventilate the inside kitchens and baths. This is particularly important in the one-room apartments, which get through ventilation.



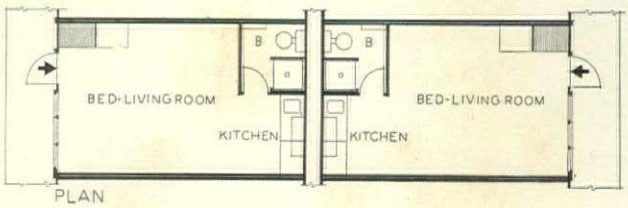
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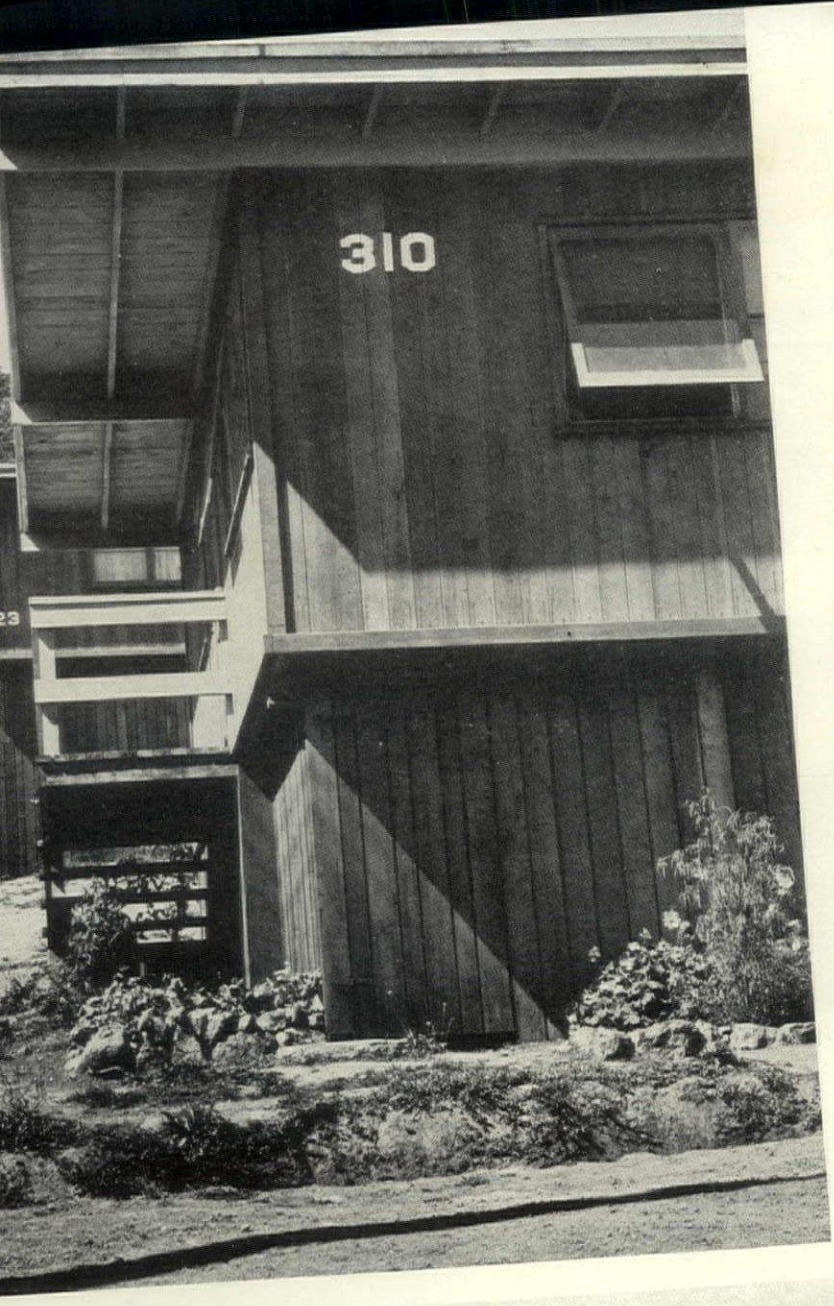
PLAN



SECTION



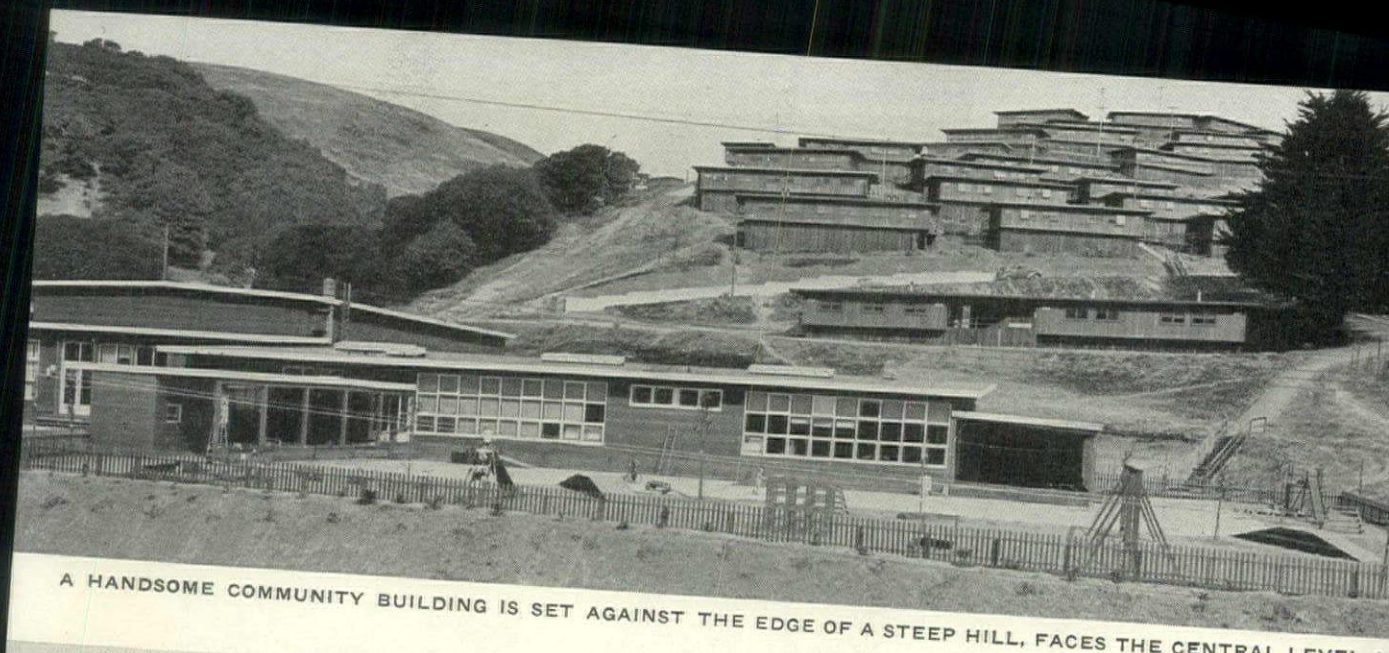
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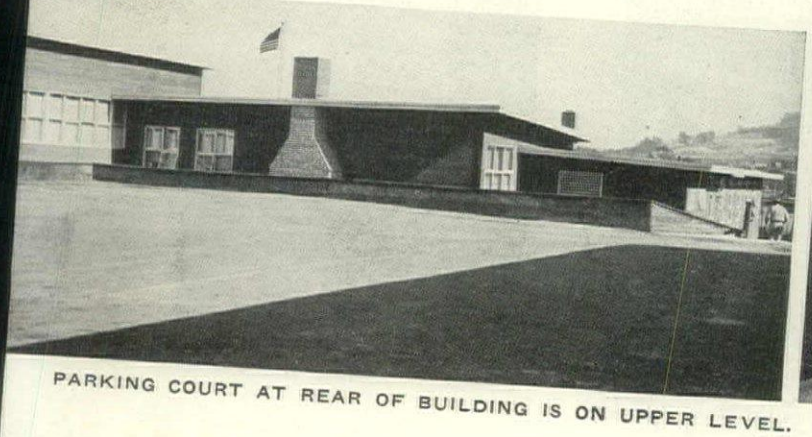


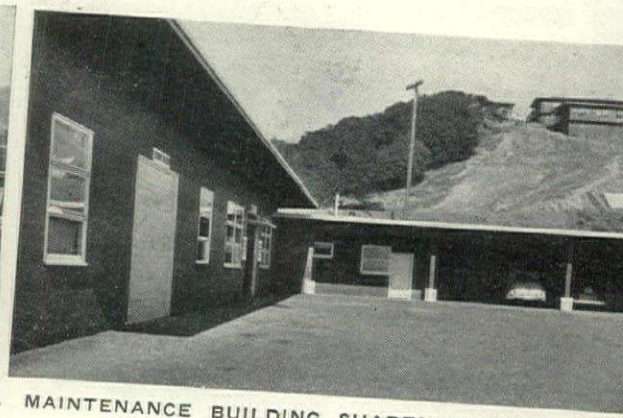
ADROIT DETAILING, plus a frank expression of the unusual system of construction, produced these excellent exteriors. Smaller photo shows shelving in typical kitchen.





A HANDSOME COMMUNITY BUILDING IS SET AGAINST THE EDGE OF A STEEP HILL, FACES THE CENTRAL LEVEL A



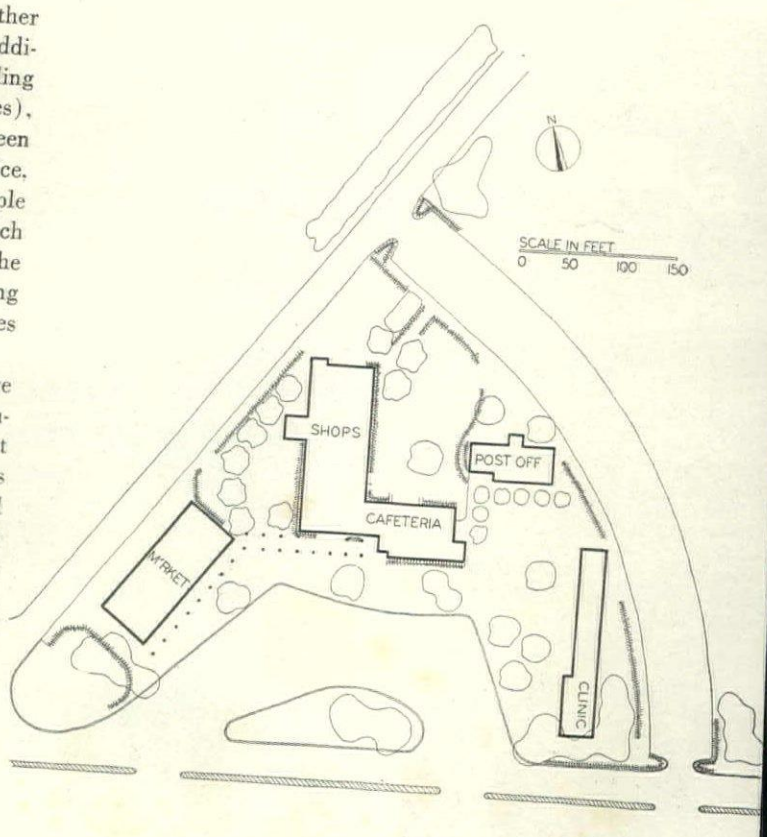


PARKING COURT AT REAR OF BUILDING IS ON UPPER LEVEL. MAINTENANCE BUILDING SHARES SERVICE COUR

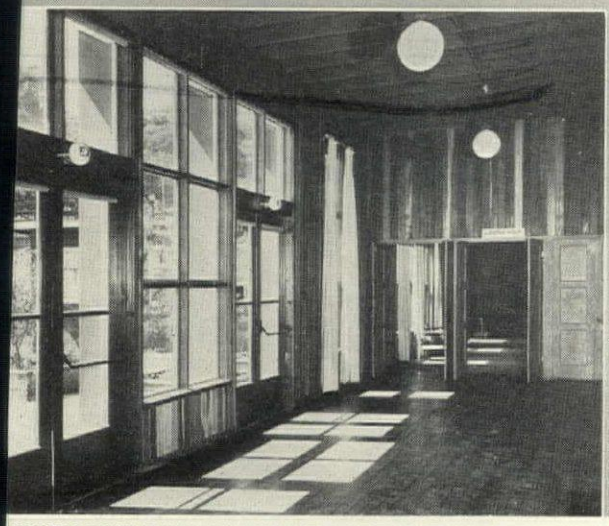
A full complement of community buildings, planned and built simultaneously with the houses, make Marin City an outstanding example of war housing.

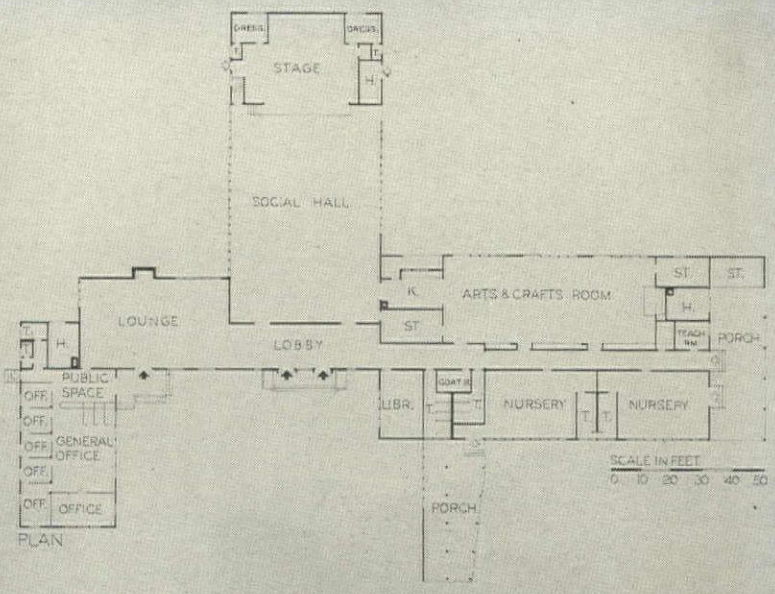
Community and commercial buildings are grouped together on adjoining blocks near the center of the project. In addition to the usual management-maintenance-social building (which in this case is housed in two separate structures), they include a super market capable of serving ten to fifteen thousand people, a store and cafeteria building, post office, clinic-infirmary, and school. Like the houses, they are simple structures sheathed in redwood, with flat and monopitch roofs and low, sweeping lines. Two of the buildings, the post office and clinic, were first used as field offices during the construction period, then moved to their present sites and altered to conform to their new requirements.

These facilities, and particularly the social building, have been used to capacity almost from the day they were completed. In addition to the self-governing City Council, tenant organizations of all types have flourished. Church services are varied and popular. Adult education classes, operated by nearby Marin College, are widely patronized, especially classes in art. A group health plan, under the cooperative California Physicians Service, furnishes full hospitalization, surgical, psychiatric and medical care at a cost of five dollars a month, paid at the same time as the rent. The social building includes a branch of the Marin County Public Library and facilities for care of pre-school children, as well as an auditorium and arts and crafts room.

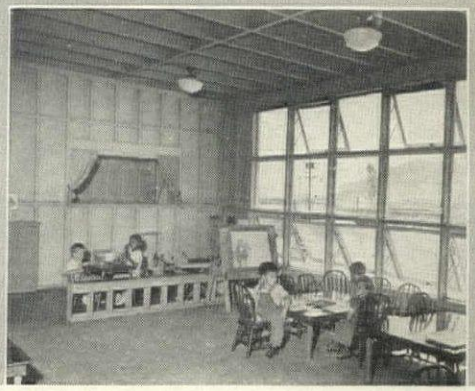






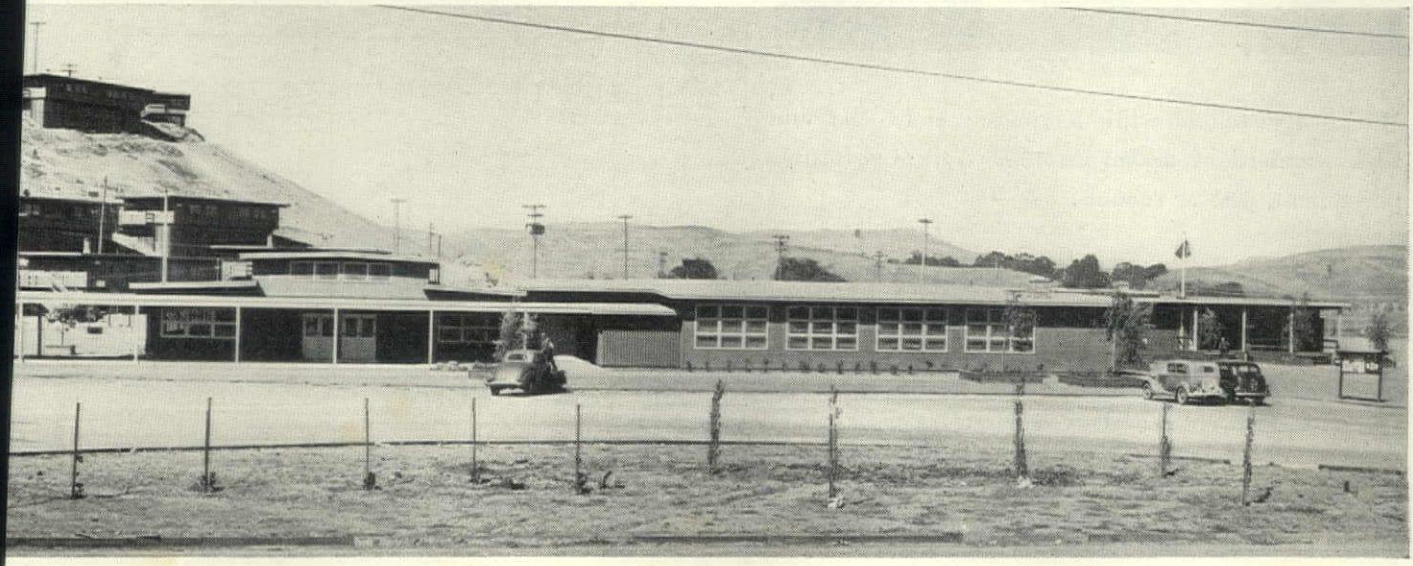


PLAN

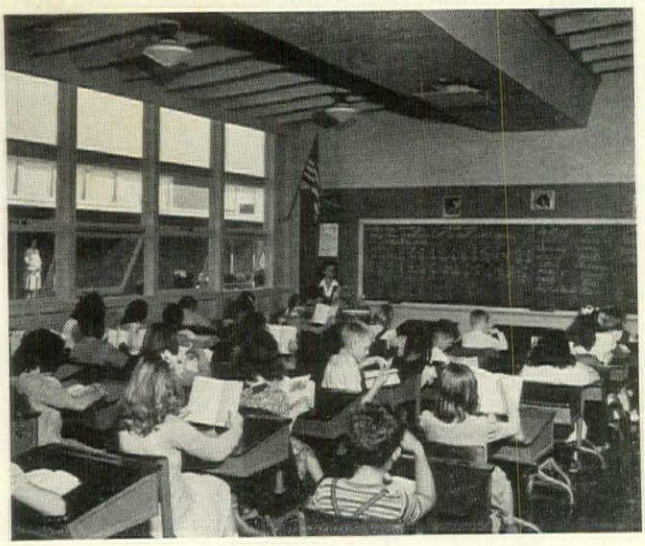


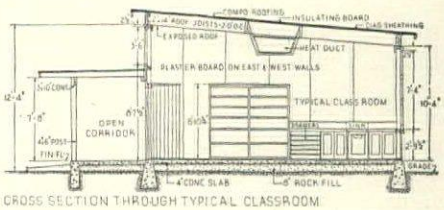
UNITY BUILDING INTERIORS ARE NATURAL REDWOOD. NURSERY HAS AWNING-TYPE WINDOWS, PLENTY OF LIGHT

E GROUP AND CAFETERIA FACE PARKING COMPOUND. POST OFFICE IS VISIBLE AT RIGHT, BEHIND CAFETERIA



OPEN CORRIDORS ARE ON SOUTH SIDE OF CLASSROOM WINGS. WINDOWS ABOVE FURNISH BILATERAL LIGHT





CROSS SECTION THROUGH TYPICAL CLASSROOM

PLAN

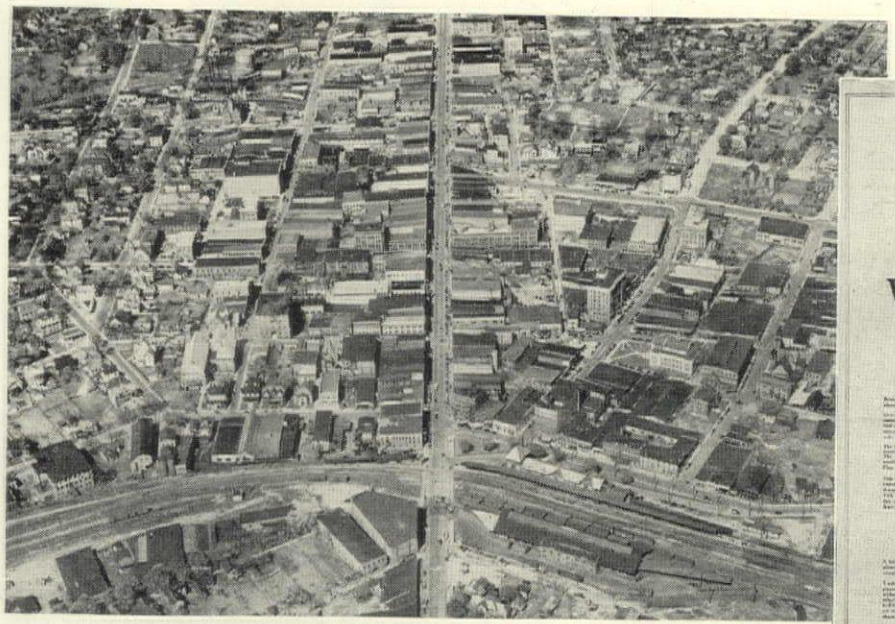
SCALE IN FEET
0 10 20 30 40 50

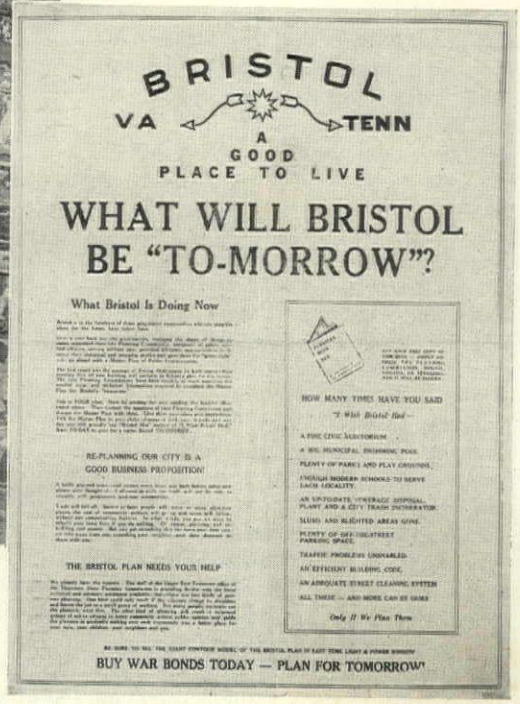
Marin City's school, while temporary, shows the same high standard of design established in California's permanent, prewar schools.

The now-familiar school type which has spread from California to other sections of the country appears in the plan at the right. All classrooms have the same orientation. Above the standard corridor a long, high bank of windows provides cross lighting and ventilation for the classrooms. Central services are logically concentrated along a central corridor. A special feature of the plan is the bank of heaters, one at the end of each classroom wing. A single duct, seen overhead in the classroom photograph, supplies the three classrooms in each wing.

PLANNING WITH YOU

This new department opened last month with a story on Omaha. Now we take you to Bristol, which is half in Tennessee and half in Virginia but undivided in its enthusiasm for postwar planning.





BRISTOL, VA.-TENN. decides to carry its planning program to the public. The story of $161 spent on popular education.

In 1883 several hot-blooded citizens of Bristol, Tenn. and Bristol, Va. lined up on opposite sides of State Street and shot at each other over the disputed state boundary line; in 1943 their descendants are working together harmoniously on joint plans for the further development of the city.

As far as the public was concerned, planning started in a big way this fall when the Bristol Planning Commission passed out a thousand copies of THE FORUM'S "Planning With You" pamphlet and ran a full page ad (see cut) in the Bristol Herald Courier headlined, "What Will Bristol Be Tomorrow?" But we are getting ahead of our story—

Bristol is almost unique among American cities, in that it is equally divided into two cities by a state line which runs down the center of State Street, its main business street. Economically and socially it is one city, on which are superimposed two complete city governments in different states, with their respective laws and organizations.

It is an active, progressive city, strategically located on U. S. Highway No. 11, the main route from the East to the Central South, and on Route 421, which runs from the Middle West to the South Atlantic States. It is located at the transfer point of the Norfolk & Western and Southern railroads, which together provide the most direct route between the South Central states and the East. It is also the most southerly city within the Eastern freight rate zone. Ten miles to the southwest is the Tri-Cities Airport with passenger service furnished by American and Pennsylvania Central air lines.

Bristol's industries are varied, including paper, leather goods, drugs, ladies' dresses, hosiery, thread, knit underwear and plywood. Approximately 5,000 people are employed in normal times, but this figure is larger today because of the presence of two large war industries, a plant for the Navy and a plywood factory converted to the construction of airplane parts.

The city has a fine, modern hospital which is located on the Virginia side (and therefore confuses birth rate statistics), a public library, a YMCA, four theaters, excellent schools, three colleges, a progressive Chamber of Commerce, and many civic and fraternal organizations.

On all sides of the city rolling hills rise several hundred feet from the floor of the valley. Beaver Creek, which drains the valley, flows directly through the city from the northeast to the southwest, crossing the state line in a conduit under the busiest corner in town. Recently the creek was covered for about 1,000 ft. and a new street built over it. State Street, located on the state line, is about 70 ft. wide; the main commercial development extends along it for a distance of over a mile with an average depth of about a block. The industrial sections stretch out along the level ground on either side of the two railroad lines and the residential sections are located on the low hills between. Most of the buildings are from 20 to 30 years old, but a few go back to Revolutionary times. There are several modern buildings in the city, and recent public buildings have been of good quality. Bristol today resembles a great many American cities in the complexity and confusion of its physical development; and so Bristol's planning program is one that shows what could be done in many similar small cities.

GOVERNMENT

The two city governments in Bristol are of very different composition: Bristol, Va. has a city manager-council type of government, whereas Bristol, Tenn. has a commission form of government.

There is no exact uniformity of related ordinances on the two sides of the city, although action on a particular problem on one side usually invokes similar action on the other. The tax structure is equally complex. Identical buildings in the two cities are assessed at very different figures and pay unequal taxes. Cooperation between the fire and police departments is quite good; both cities receive all signals and often pool their apparatus. There are two large post offices only four blocks apart but most other federal agencies are set up to include both cities.

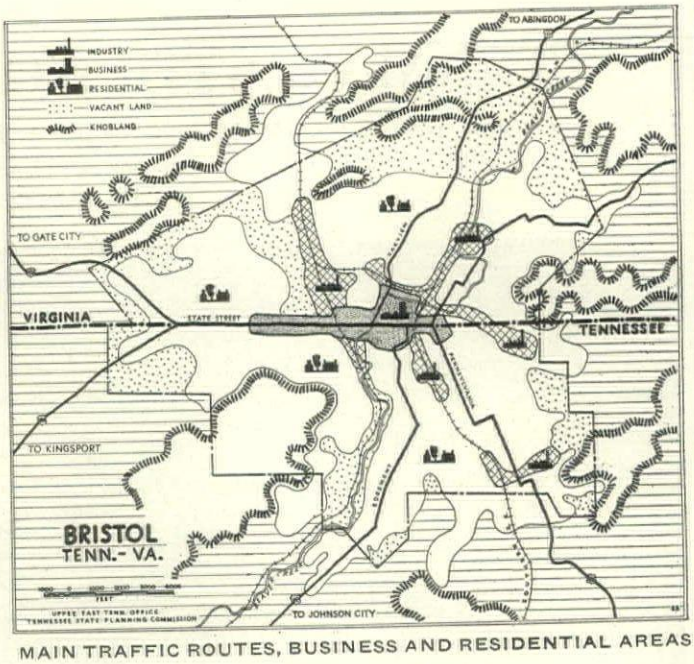
Virginia and Tennessee have excellent state legislation in regard to planning; both states have active, progressive programs which, despite their differences in approach, are equally effective. As would be expected under the conditions, there are two separate planning commissions with similar organization and powers, each of which must certify its half of any planning proposal to its own city government for action. The Bristol, Va. commission consists of seven men including two city officials serving ex-officio, a laundry executive, a knitting mill owner, an accountant, an architect and a contractor. The Bristol, Tenn. commission consists of two city officials serving ex-officio, a hardware merchant, a furniture dealer, a hosiery mill executive, a leather goods manufacturer, an automobile salesman, a labor leader and a real estate man. The planning commissions meet individually at regular monthly meetings, and lately have had frequent joint meetings to discuss common problems. It is the active and interested participation of the commissions' members in the development of the program which has been responsible for Bristol's planning success.

THE PLANNING BACKGROUND

The present planning program in Bristol is the direct outgrowth of a unique planning experiment which the Tennessee Valley Authority and the Tennessee State Planning Commission began in 1938 to assist in planning communities in the reservoir-affected areas of the Tennessee Valley. At the outset expansion to include other federal agencies was discussed. The Federal Housing Administration became interested because of the benefits of planning on the value of residential real estate values, and in 1941 the Tri-Cities Planning Project was created to investigate the possibilities of providing technical assistance to small cities. The Tri-Cities — Bristol, Johnson City and Kingsport—were selected because they are located so as to form a triangle roughly 25 miles on each side.

Operation began in May, 1941 with each agency contributing to the project; the FHA assigned two planning technicians and an office assistant, the Tennessee State Planning Commission and local city governments provided the initial research staff. The cities undertook most of the operating expenses and TVA made available map data and experience in procedures.

A three point program stating the objectives of the new office was outlined by Paul Opperman, the first director: 1) to provide technical assistance to communities which otherwise would not have competent planning advice; 2) to explore ways and means of making local planning effective; 3) to provide a regional research center which could gather statistical data and information about local thought and conditions that would be of assistance to federal and state agencies in planning and executing their programs.



MAIN TRAFFIC ROUTES, BUSINESS AND RESIDENTIAL AREAS

Bristol, Tenn., Johnson City and Kingsport all created planning commissions in the spring of 1941. Bristol, Va. began work with a zoning commission which was changed to a planning commission in 1942. In general the program, as it was originally developed, first emphasized the research and collection of development data for planning, followed by attention to specific development studies and education. Currently, it focuses on the preliminary completion of a comprehensive plan.

RECENT ACTIVITIES

In the early phase of activity both of Bristol's city governments were thoroughly analyzed as to organization, administration and financial set-ups. A report was prepared containing suggestions for improvements. A regional survey was also made to determine the possibilities of Bristol's economic future, what form it might be expected to take, and in what direction it should be encouraged.

Perhaps the most important part of the program was the interest in and understanding of planning developed by the members of the commissions. It was entirely a new idea to most of

(Continued on page 114)

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HORSE SENSE PLANNING, II

Continuing the analysis of how private enterprise can contribute to urban redevelopment. The second in a series of three articles by Architects Albert Mayer and Julian Whittlesey

THE FIRST CHAPTER of horse sense planning outlined some simple measures whereby private enterprise can help to arrest the decline of property and neighborhood values in the centers of our cities. Neither as costly nor as extensive as the average city planning project, these measures are well within reach of the private investor and need not await legislation and appropriations before they can get under way.

The overall objectives of horse sense planning are to make our cities pleasant enough and convenient enough so people will want to continue living and doing business in them.

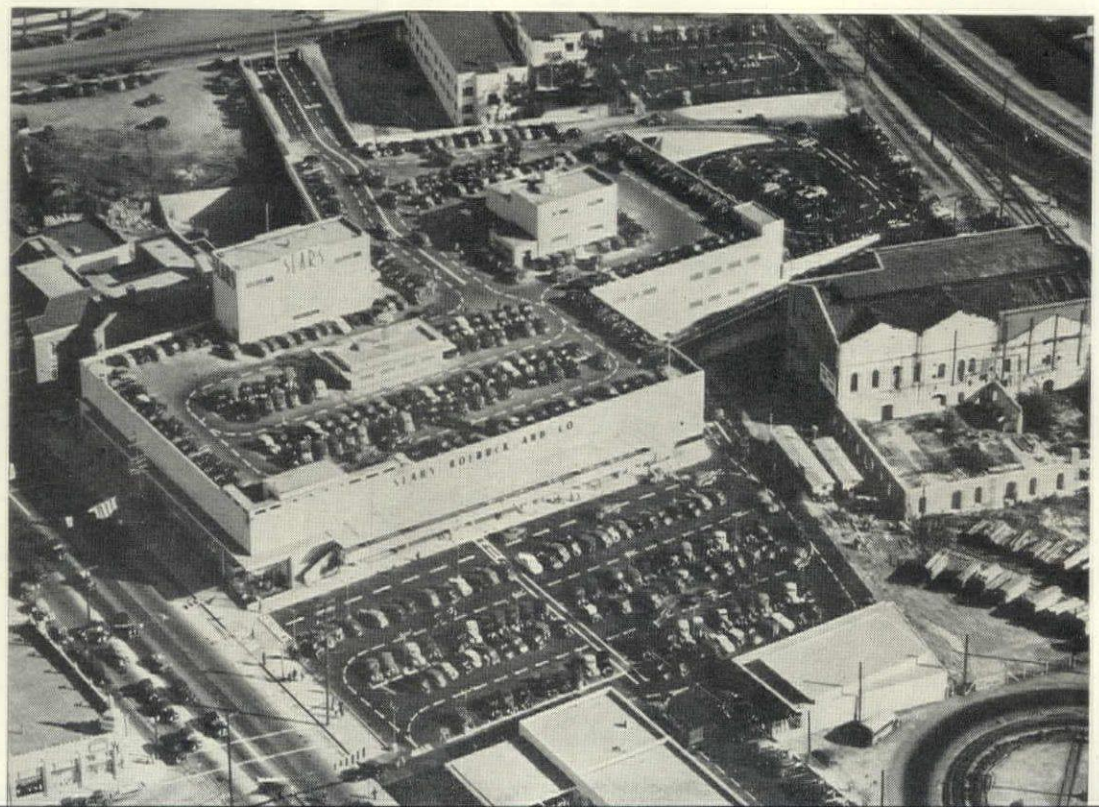
Everyone knows that our city centers are losing residential and business income to other or outside areas where shopping, recreation and traffic present less of a problem. Most cities, large and small, have become difficult to live in and difficult to do business in. The resulting vacancies, foreclosures, tax delinquencies and demolition spell blight, and blight now has a firm foothold in almost any city you can think of.

In the last issue, horse sense planning concerned itself with creating neighborhood centers which offer the city dweller stable, serviceable, livable environments. Profitable, private measures to establish self-contained neighborhoods were suggested. Horse sense planning now continues with ideas for better business conditions. Well designed stores improve the character of the neighborhood and establish a rental advantage to the benefit of the landlords, tenants and residents. The automobile has so dynamically colored our thinking that we have lost sight of the pedestrian. We have widened our roads and correspondingly narrowed our sidewalks. As a result, walking in central urban areas has become a jostling contest, window shopping is all but a lost art, show windows have decreased in value.

From the horse sense viewpoint, parking facilities should be made an integral part of building design. Many independent parking projects are needed to compensate for past neglect of this problem, garage space should be built in many more new structures. Improved parking conditions can be turned into profitable investments. They minimize the congestion usually associated with commercial enterprise and greatly improve the appearance of the neighborhood.

In the concluding article, horse sense planning will deal with the development of building investments which make possible more profitable returns without squeezing the last drop out of the zoning laws.

Sears, Roebuck store, located on a main highway outside of Los Angeles, Calif. is an imaginative project. It contributes to living and business conditions by providing for the shopper and his various transit facilities, for the worker and the goods he handles. At the same time, it is an obvious warning to city administrations and investors having a stake in the center of any city.



BETTER SHOPPING CONDITIONS

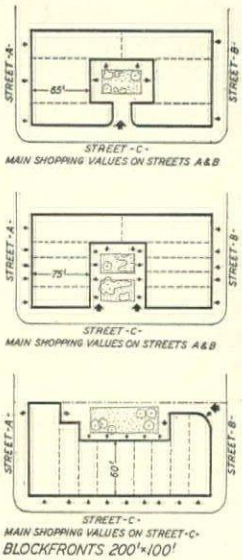
Imaginative planning of store blocks is beneficial to merchant, landlord and consumer alike.

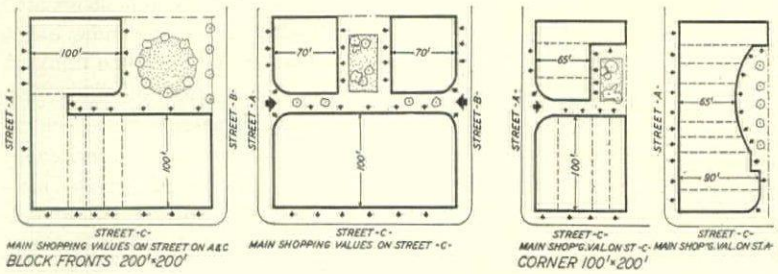
For many years there has been little progress or change in urban shopping. Although modern planning has created many suburban auto shopping centers that are both attractive and functional, city facilities have failed to keep pace. Preoccupation with urban traffic problems has resulted in the neglect of the principal shopper, the pedestrian.

We can consider three types of problems whose horse sense solutions make shopping pleasanter and stores more attractive: locations where land isn't too costly—urban but not central urban—as illustrated by examples in Bethesda, Md. and Miami Beach, Fla., central urban areas where the store level is the main economic consideration as in the case of the New York taxpayer shown, and central urban where stores are still valuable but where the main consideration is the building above as typified by the Howard Clothes store and the New York apartment house with a block front of stores.

In residential urban neighborhoods where mothers shop with children and baby carriages, requiring "parking" space, shops are still built flush with the property line despite low land values. A number of possibilities are shown (right) for plots of various sizes and shapes in this type of location. None requires a reduction of store frontage. In general, important stores are 90 to 100 ft. deep, inside stores from about 60 to 80 ft. deep. The playground-concourse feature, achieved by this slight sacrifice of interior space, represents little if any loss of income. Each has two frontages and entrances instead of one. While the sketches are diagrammatic and do not attempt a detailed layout, it seems entirely likely that the income from such a development figured on the basis of business done, would be substantially greater than if the whole area were built up in the conventional way. Examples of similar solutions are shown in THE FORUM's May issue, *"New Buildings for 194X."*

The central urban taxpayer well illustrates the urgent need for horse sense planning. It represents a popular but unhealthy trend in city building which originated as a short term investment in the use of vacant land. Instead, time has proved most taxpayers to be long lived structures, contributing nothing to the development of the city. So far, the areas involved in taxpayer projects have been a little too small to evolve a solution as general as that for the neighborhood shopping centers just discussed.



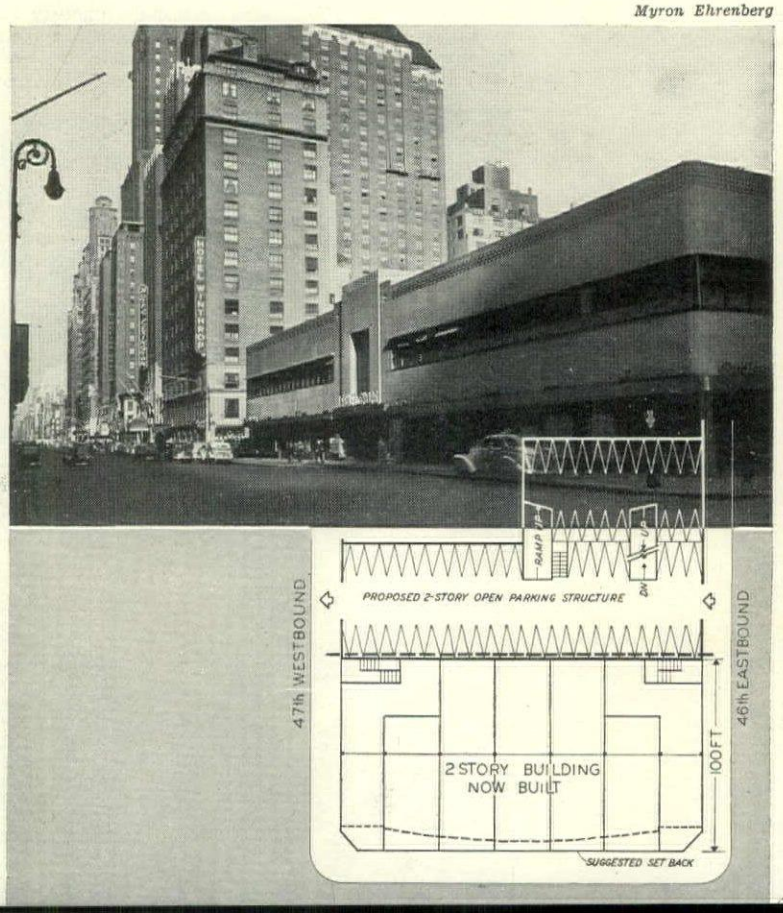


CASE A. The number of taxpayers built in recent years constitutes a problem worth considering. A possible solution can be suggested by showing what might have been done in an actual case.

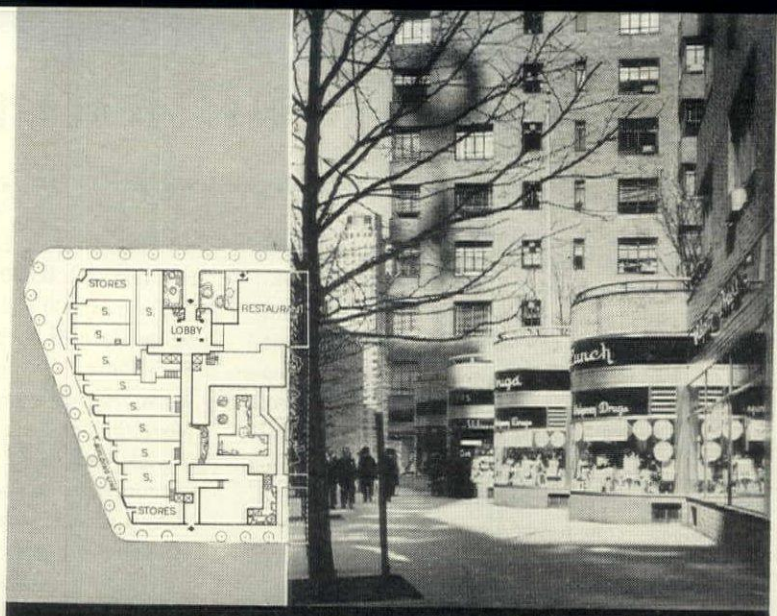
This building located near Grand Central Station amid rundown buildings converted to retail purposes, is the first attempt to pull up a desultory retail area near some good hotels and uptown business buildings. The problem was not only to create good stores, but to stimulate the neighborhood with the kind of shopping street its central location justifies. Vehicular traffic is congested and off-street parking earns premium fees in the few nearby, overburdened lots. Heavy pedestrian traffic discourages window shopping.

In this case two things should have been done to increase income and improve conditions. First, a set-back as shown would produce a sort of concourse to ease the pedestrian jam and induce window shopping, giving preference to this side of the street. Ten feet off the depth of 100 ft. stores is no loss to the type of shop in this section. The reduced second floor area should be outweighed by the competitive advantage of the set-back block front. Secondly, this building cries out for parking space. As indicated, the owners had intended an open parking structure as an extension. This, however, ran afoul of shortsighted neighborhood interests and a zoning board of appeals which failed to recognize its potential enhancement of shopping, parking and traffic conditions.

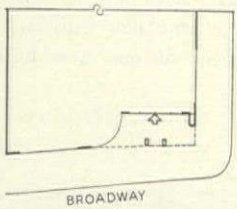
Myron Ehrenberg

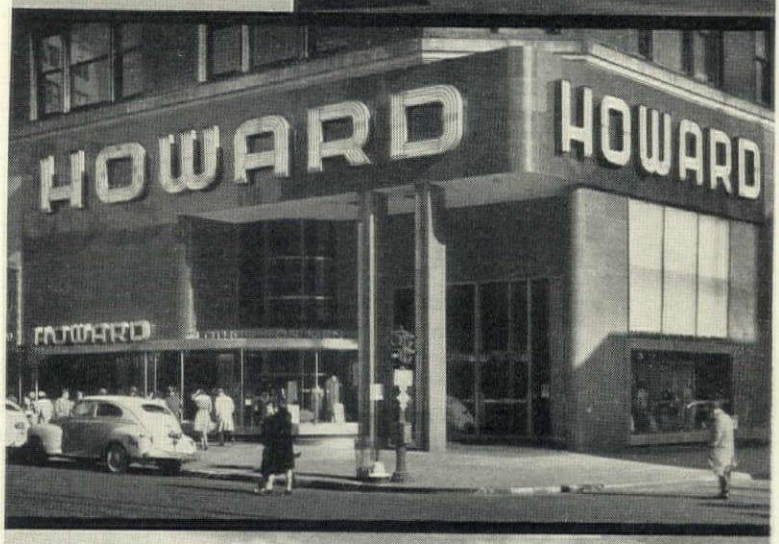


CASE B. This New York apartment building has a block front of stores. The scalloped plan accomplishes two things: it gives a corner effect to every store by placing the show window at right angles to the pedestrian, it produces a sort of backwater for window shopping. The contrast between the present stores and the previously demolished two-story taxpayer is striking. This was the usual run-of-the-mine building with straight store fronts, flush with the building line. It suffered from heavy vacancy and turnover. In contrast, the present stores have a rental income of almost six figures. The apartment building above plays only a minor part in this change. The largest, a men's clothing store, depends mainly on outside trade. The drugstore's largest business is from nearby office buildings. This example illustrates a fundamental of horse sense planning: competitive advantage. These stores have wider drawing power than any others in the section and draw business from shops in similar lines of merchandising which are closer to the customer.

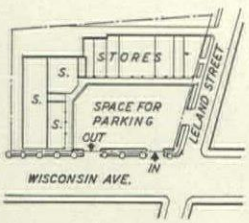


CASE C. Howard Clothes store in New York has for many years done a volume business. Realizing the importance of a shopping bay along one of the city's busiest streets, the owners cut under and back of the building face. The resulting arcade adds much-needed width to the sidewalk. It is unlikely that the owners would sacrifice valuable floor space if they were not convinced of the profit to be gained by such action.





CASE D. This shopping center is located well outside the District of Columbia line. It relieves a difficult parking problem on a main suburban avenue. A poor business showing, however, points out two defects. First, stores are set back so far that they often fail to attract the passing motorist. Secondly, the parking space is limited and when full, auto-borne patronage dwindles. Experience with this type of situation suggests store frontage more closely related to the avenue, rear parking expansible on cheap land and use of the side street both for frontage and parking access.







CASE E. Opening on Miami Beach's most desirable shopping thoroughfare, the secluded quiet of this courtyard arrangement attracts the highest type tenant and customer. As most of the better stores flank this one street, the court provides a relatively high income for the property at the rear which, otherwise, would have had little or no commercial value and is located too near the business district for residential development. Athough some nationally known stores occupy street frontage along the avenue lesser enterprises in this center have been able to compete successfully by virtue of their attractive location.



PARKING BY PRIVATE ACTION

Adequate automobile storage must be recognized as a permanent, not transitory land use.

Gas and tire rationing makes it hard to recall with any vividness what a problem urban parking has been and will be again. In the past, except for a few office buildings, apartment houses, hotels and some old tumbled down garages that managed to withstand the zoning ordinances, urban parking was not provided for on a permanent basis. It was usually considered a temporary means of eking out a little income on land assumed to be vacant only until someone built a skyscraper.

Horse sense contends that parking is a definite land use. It is going to require much land and the owners of large vacant or semi-vacant properties should analyze its possibilities before automatically concluding that a large building is the best use for the land. The insidious part of this assumption is that when such buildings are built they are not necessarily immediate flops. Though they may involve such desperate competitive tactics as taking over unexpired leases, they often do well. The addition of 100,000 sq. ft. to available office space totaling 10,000,000 sq. ft. seems negligible, even in the face of a constantly diminishing number of tenants. No violent change is noticed. But when this goes on repeatedly, as it has in the past, the final result is inevitably overbuilding, a high degree of vacancies, eventual ruin and economic waste.

As a factual index of this condition, the former office buildings at 43rd St. and Broadway, New York, may be cited. In an admittedly good business neighborhood, large office buildings have been demolished in the last few years to make way for two story taxpayers. True, these were older buildings, but by no means obsolete. They were simply victims of the inexorable process of overbuilding. They had been pushed out of existence not by one new building, but by the cumulative effect of one new building after another.

CASE A. To take a specific instance of parking possibilities, there are two vacant block fronts on either side of Madison Avenue from 38th to 39th St. in New York. For some years they have been used as parking lots and, despite a central business location, their future is problematical. There are better business and apartment locations nearby. Store values are only medium. In this case, the need is not to develop more tall buildings of marginal value, but to provide parking, relieve congestion and preserve light. Neighboring office buildings and nearby department stores would value parking facilities for shopping and business far above the actual receipts from parking fees. This value can be capitalized. Land owners must at the same time stop deluding themselves about the fictitious land values of boom days. A parking development on these sites will involve making firm commitments with nearby store and office buildings which can in turn gain advertising value by attaching their name to it. Such a development improves the neighborhood. It supplies a much needed facility which helps, rather than harms, the existing buildings. The financial setup below is for the west parking structures and stores.

New investment	$178,500
Annual Income	92,500
Annual Expense	42,800
Available for interest, amort. and dividends	$ 49,700
Percent on new investment	28. %
Percent on new investment and land appraisal	8.6%

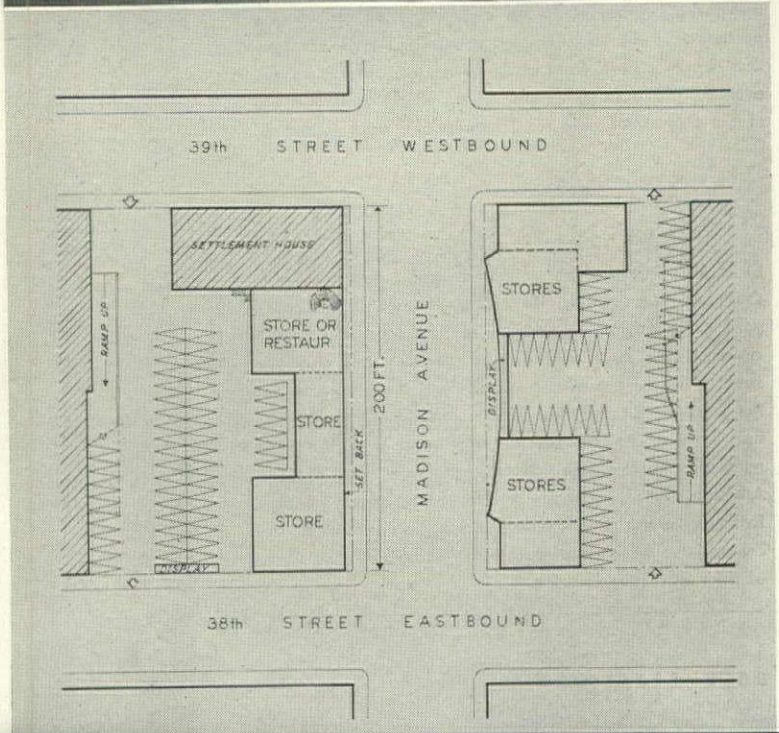
New Investment includes building cost of 38 cents per cu. ft. for stores and 25 cents for parking structure, also 6 per cent carrying charges on investment and land appraisal, 3 per cent taxes during construction, and $7,000 fees. Land assessment, $43 per sq. ft., appraisal $17.50.

Annual Income includes store rental, $200 per ft. for deeper stores and $150 for shallower, $10,000 for department store name concession and $750 for side street show window. Parking structure rental per sq. ft. gross floor area at 65 per cent of established parking lot rate of $1.40 per sq. ft. This 65 per cent ratio allows for the extra cost of operating a structure rather than a lot.

Annual Expense includes 3 per cent tax on land and building, $3,000 for insurance and repairs and 10 per cent store vacancy.

Myron Ehrenberg

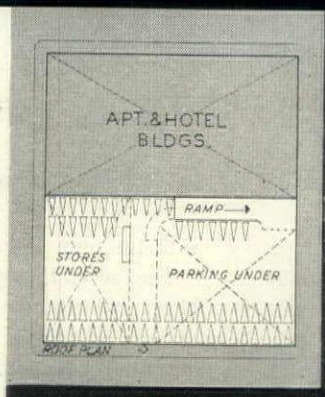




CASE B. This existing project is in the taxpayer income bracket. The rate of return on investment could be substantially increased if it were doubled in size when the rest of the now old fashioned blockfront becomes obsolete. Such expansion would provide another entrance on the side street and the stores could be improved with basements and proper heating. The expansion of the theater and auto sales district on either side of the property may encourage the present type of development as a permanent investment. Operating figures are approximately as follows:

New investment; building, carrying charges and fees		$62,000
Annual income; store rentals, $12,000. Parking rental, $16,000 plus $2,000 tenant's profit		$30,000
Annual Expense; Taxes on land and buildings	13,800	
10 per cent store vacancy	1,200	
Insurance nad repairs	2,000	
		$17,000
Available for interest, amort. and dividends		$13,000

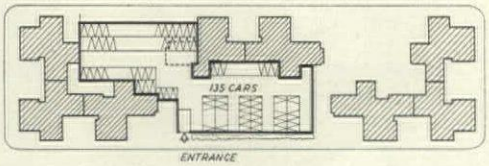
Land is assessed at $25 per sq. ft., appraised value (ours) $11.50 per sq. ft.







CASE C. The store frontage sacrificed for the incorporation of this garage into one of the tall buildings in Rockefeller Center amounted to just the width of the entrance on either side. The bulk of the garage space occupies the core of a huge building mass from the basement to the second floor, leaving exterior space for two story stores. The central location permits comparatively high parking prices and a large volume of business. Had the same interior space been allocated to offices and storage, rental income would have been low due to the lack of air, light and view.



CASE D. This large garage, partly below grade, is for the tenants of a six-story garden apartment in Queens, N. Y. The project is for middle-income tenants, with rentals averaging about $18 per room per month. It houses 312 families; the garage accommodates 135 cars. After deducting operating costs, parking and storage fees net better than 10 per cent of the first cost of the garage. Concealment by grading and planting was a factor in neighborhood approval as required by the zoning ordinance. The garage is an effective feature in renting apartments. A surfaced playground occupies part of the roof, the rest is planted in grass and merges with the lawn beyond the garage.



CASE E. This garage was built by a Washington newspaper for the use of its employes with additional space leased to the public. Construction costs were about 23 cents per cu. ft., or $430 per car. Capacity is 350 cars. Monthly rental rates are low, but, due to the central location the principal business is done on higher hourly and daily rates. Screen walls consisting of suspended architectural concrete slabs permitted the reclassification of this garage under the building code. Accepted as an unenclosed building, insurance was greatly reduced.



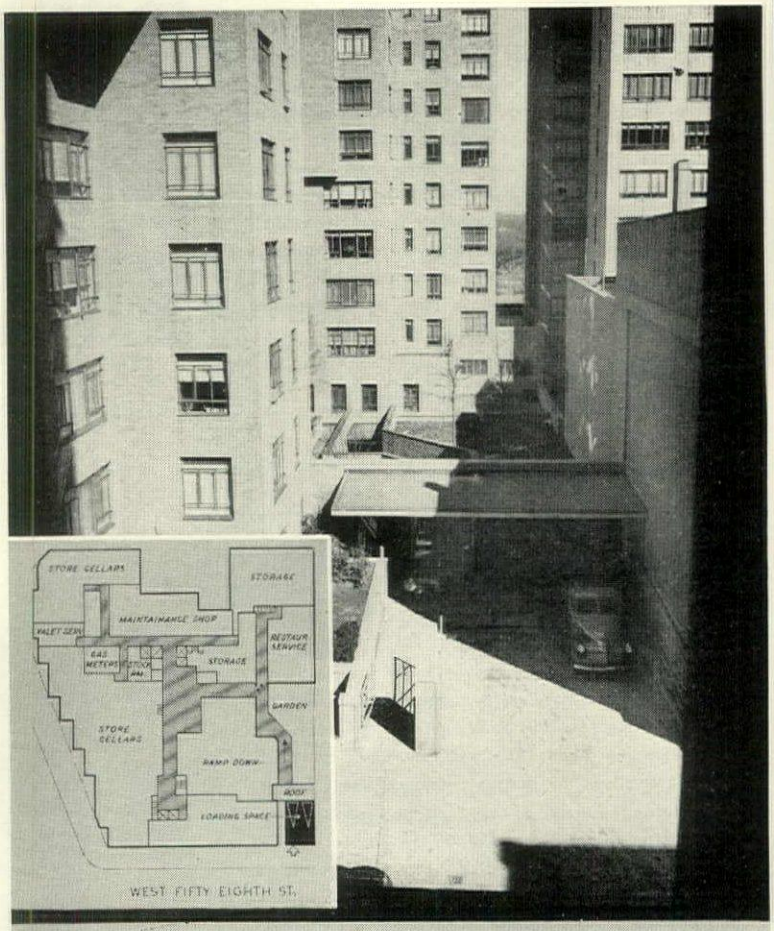
OFF-STREET LOADING

A private-enterprise contribution to stabilized property values and improved traffic conditions.

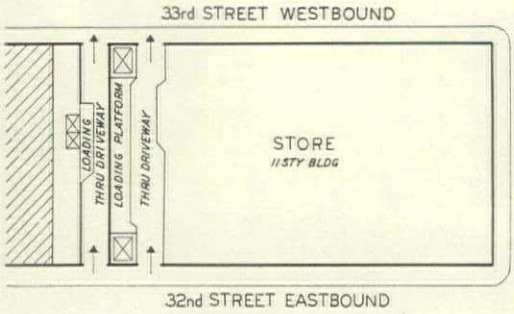
No municipal factor more obviously needs a large scale, planned reorganization than traffic and transportation. Quite aside from large scale measures, horse sense planning offers two suggestions. Off street loading is the first. Truck loading is one of traffic's most far reaching retardants, originating at industrial buildings, apartments, hotels and offices. Any good size building can provide off street loading platforms as a number already have done. The result would benefit even distant traffic. For new and existing buildings the cost would be commensurate with the gain in rental value.

The second suggestion is staggered leases. Many cities suffer from the self-inflicted curse of but one annual date for residential and another for commercial leases. Peak congestion, inconvenience and delay surround these dates, reaching to every street, elevator and public corridor. During this brief interval the demand exceeds the supply and the trades involved have a short feast between famines. The simple remedy of three or four lease dates has been adopted by some cities and should be by all.

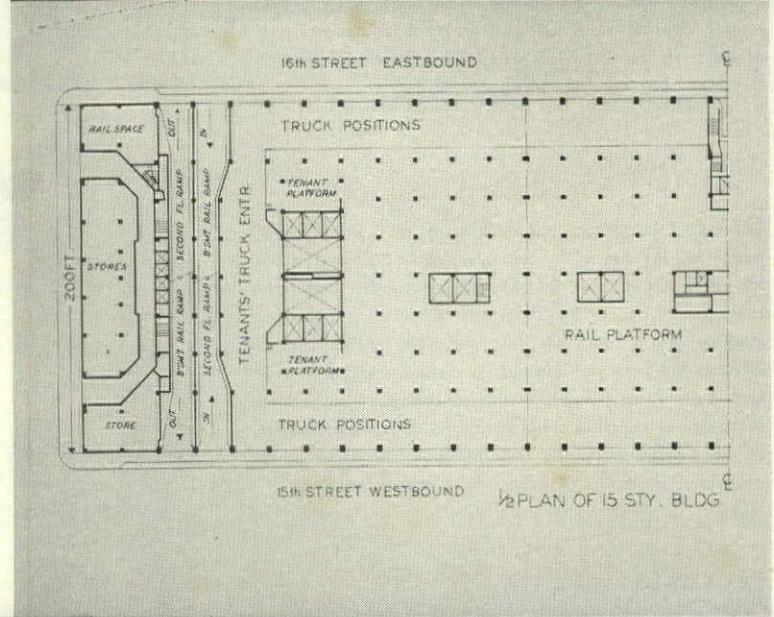
CASE A. Off-street truck space, a covered platform and foot ramp to all basement services including the restaurant kitchen are rare features incorporated in this New York apartment building. The arrangement appreciably reduces traffic snarls and consequent street noise near the entrance. Movement of tenant's goods is speeded up particularly during the critical moving days around leasing time. Congestion is avoided in the upstairs public halls. The resulting improvement is important in avoiding tenant irritation, hence vacancies. The loading and service system has also lowered management labor costs by reducing the number of men and time required for routine services.



CASE B. The loading facilities for Gimbel's department store in New York are so designed as to permit display frontage where other stores are apt to threaten the pedestrian with loading platforms and delivery trucks. The usual sidewalk congestion is totally avoided (below).

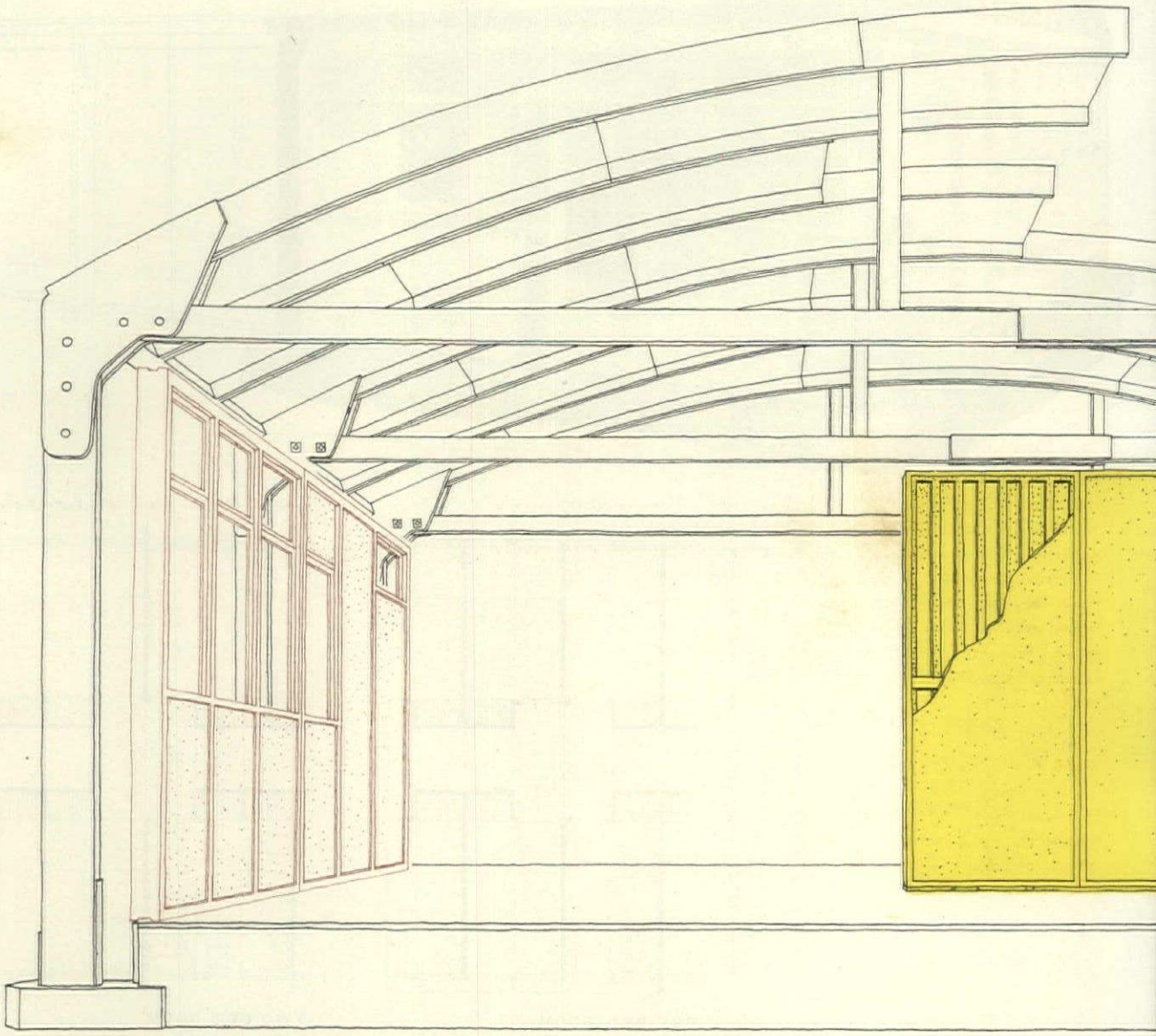


CASE C. The Port of New York Authority Building, a public warehouse, outranks its competitors in the convenience and speed with which goods are received, stored and dispatched. Part of its commercial superiority lies in the preservation of smooth traffic conditions in the surrounding streets. A huge offstreet loading system occupies most of the first floor and basement. Separate facilities are provided for railway trucks and those operated by tenants. Motor vehicles can reach fourteen floors by elevator. To the warehouse tenant, time is money. His trucks and labor do not lose time waiting in and around this building. The demand for space exceeds the building's capacity by 50,000 sq. ft.



The final article in Horse Sense Planning, *Underenvelopic Development*, will appear next month.

PREFABRICATION



BASIC ELEMENTS: FRAME AND ROOF (BLACK) CURTAIN WALLS (BROWN) AND PARTITIONS (YELLOW)

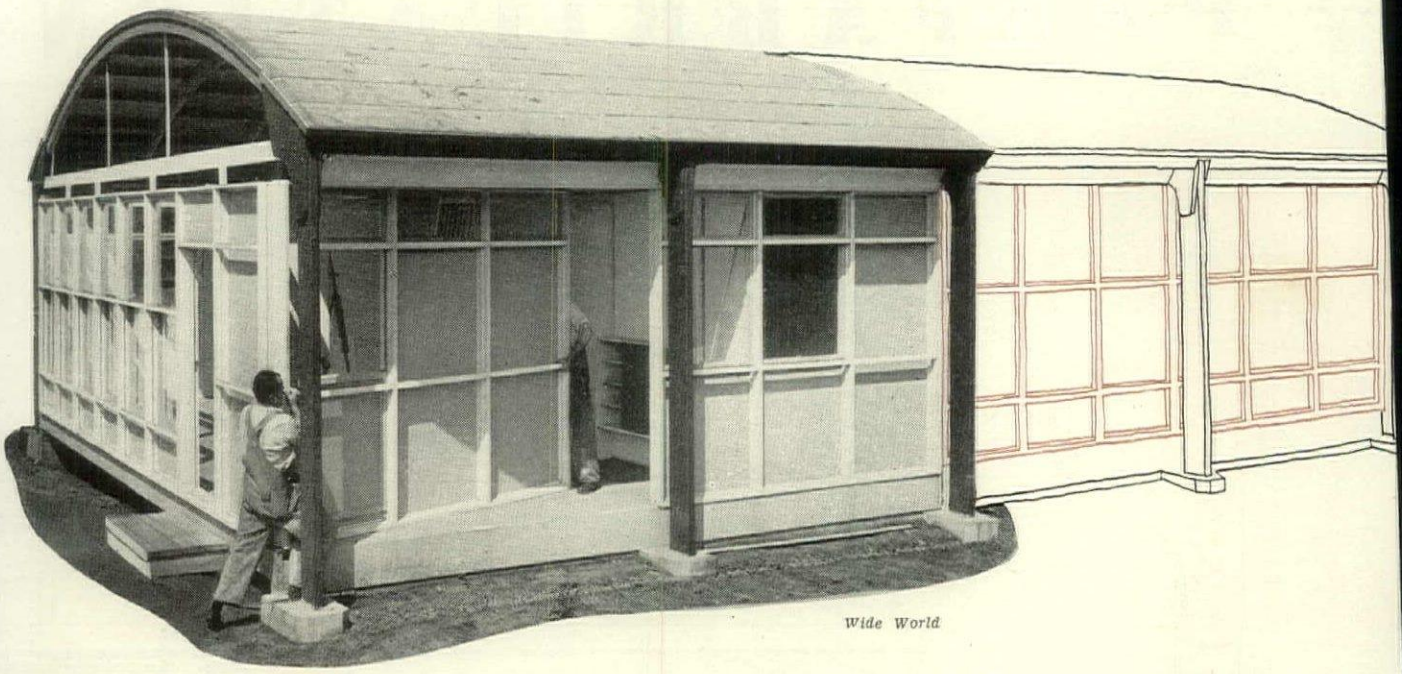
RATIO STRUCTURES

A new system of prefabrication which separates structure and curtain walls, emphasizes all-purpose flexibility and forward-looking design. Designed by Paul Lester Wiener, José Luis Sert and Paul Schulz.

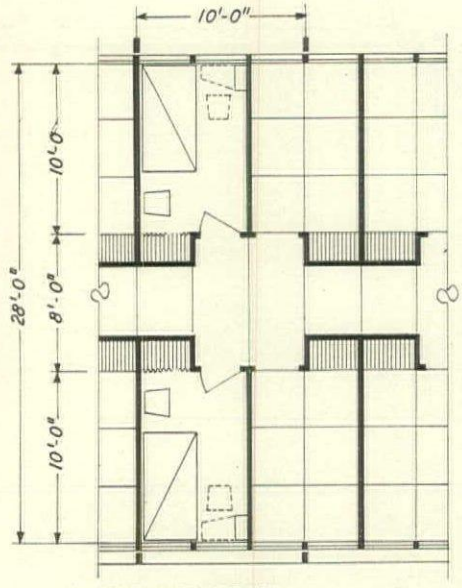
Patents applied for.

With few exceptions, most systems of prefabrication developed in recent years have been based on a conventional design approach. Intended to duplicate as closely as possible the so-called Cape Cod Colonial house so popular with builders, they have inevitably followed a similar structural formula. Parallel bearing walls, on opposite sides of the building (and in most cases down the middle as well), support the floor, ceiling and roof. End walls, which have no structural function except as stiffeners, are built in the same way as the sidewalls which carry the loads. The construction sequence, as in the conventional frame dwelling, is first to erect the floor as a platform, then set up the walls, and finally add the ceilings and roof.

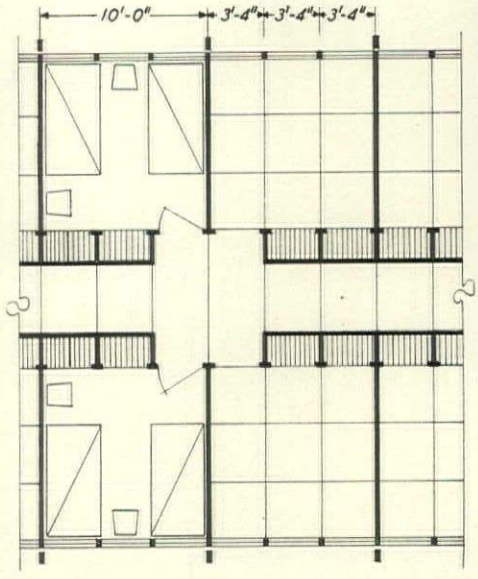
Ratio Structures conforms to none of these rules. Instead of building from the floor up, the system assembles the structure from the roof down. Instead of load-bearing exterior walls and partitions, it uses "curtain" walls which



Wide World



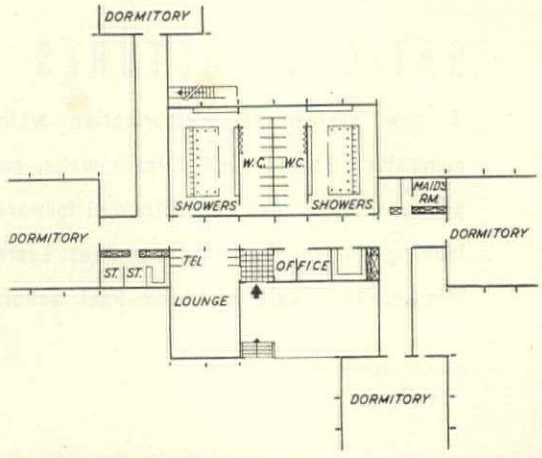
ONE-BED ROOM



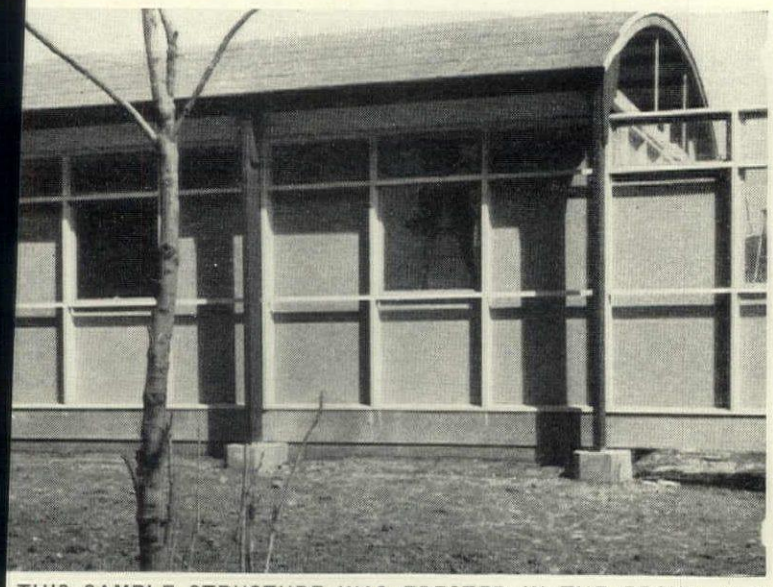
TWO-BED ROOM

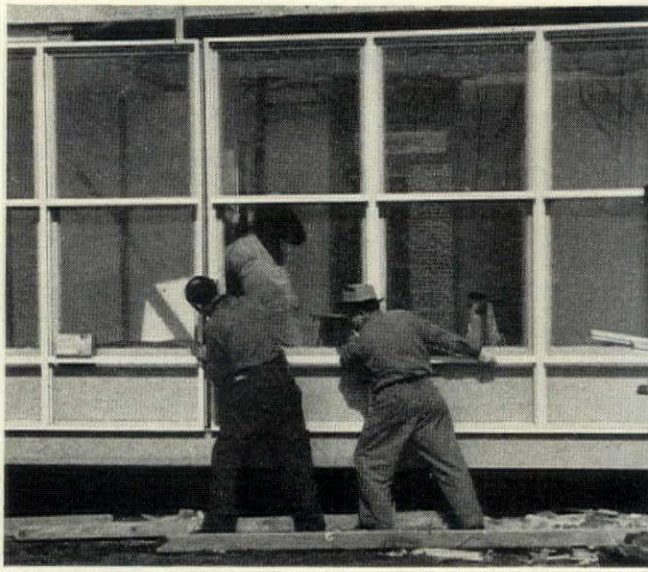
can be inter-changed and moved about even after the building is complete, and puts the structural frame—a series of free standing posts—on the outside of the building. To replace the conventional gable roof, supported by triangular trusses or rafters, it employs a remarkable arch roof in which curved, standardized panels are put together like bricks to form barrel vaults spanning the entire width of the building.

Using only 35 per cent of the structural lumber and 25 per cent of the metal permitted by the WPB for war housing, Ratio Structures claims a number of advantages over conventional construction and most types of prefabrication. Most important is flexibility: structures of all types can be built from the same parts, including buildings which require wide spans, high ceilings, or walls set back to form porches, etc. The structural system allows a great deal of leaway in fenestration and virtually any type of plan. And, in addition to these practical virtues, it is one of the first such systems to suggest a new design vocabulary; a frank expression of a new method of building that is at once economical, attractive and capable of many variations.

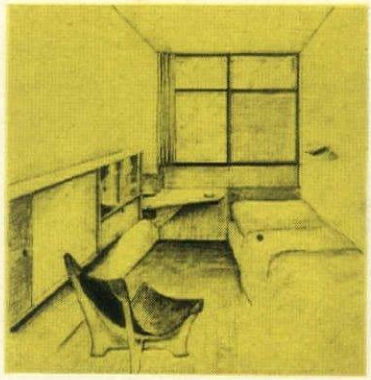


TEMPORARY DORMITORIES for war workers, designed for construction by the Ratio Structures method. The system is now being tried out in an FPHA project of 160 temporary dwellings and a community building in Sidney, N. Y.

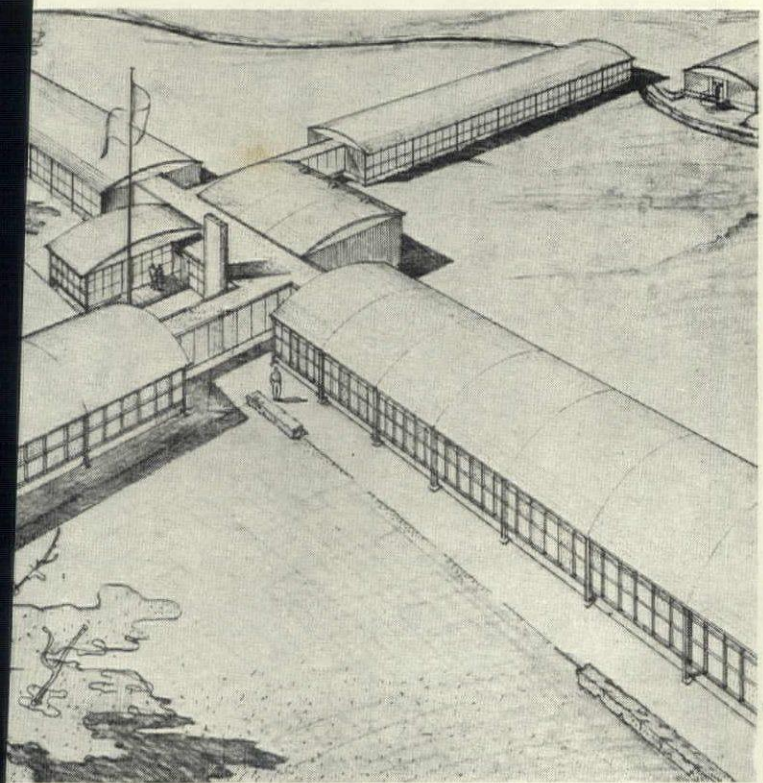


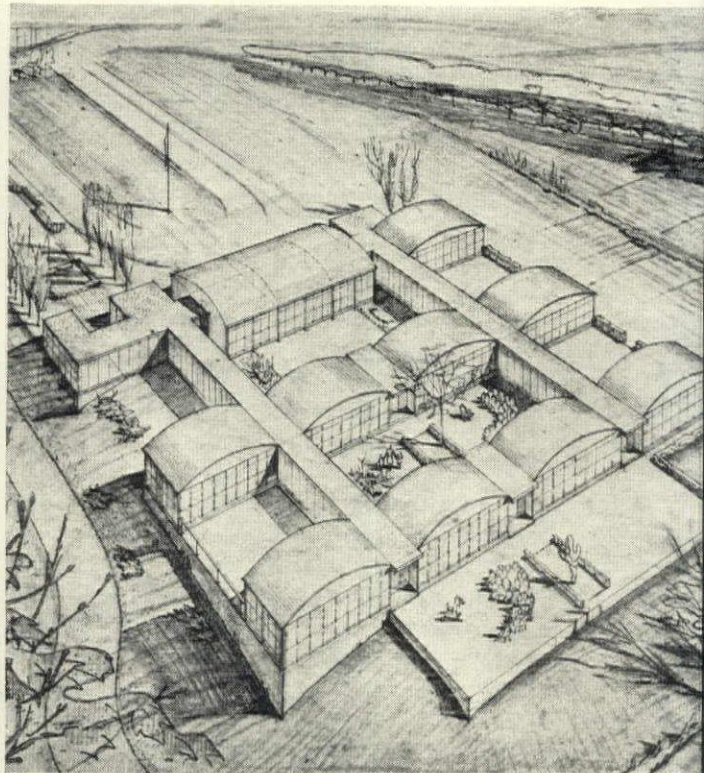


THIS SAMPLE STRUCTURE WAS ERECTED IN THE BRONX, N. Y., TO DEMONSTRATE RATIO STRUCTURES SYSTEM

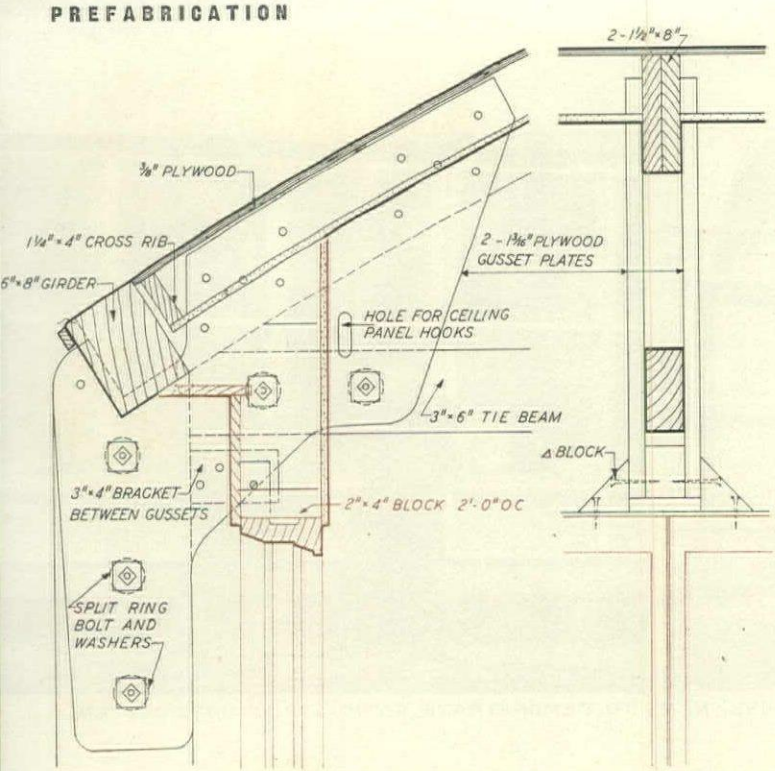


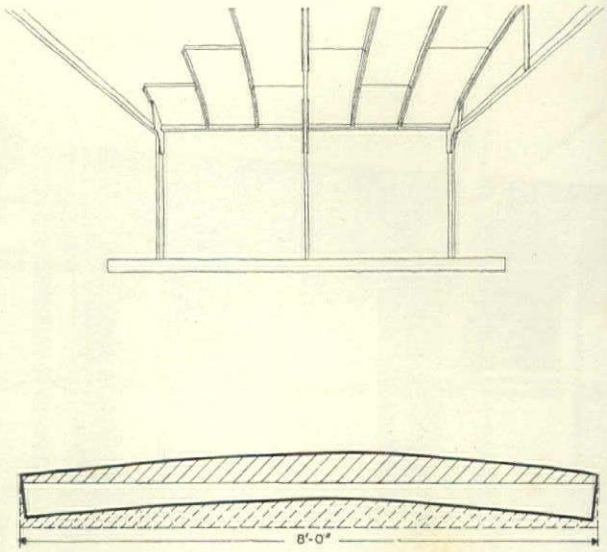
TYPICAL DORMITORY BEDROOM



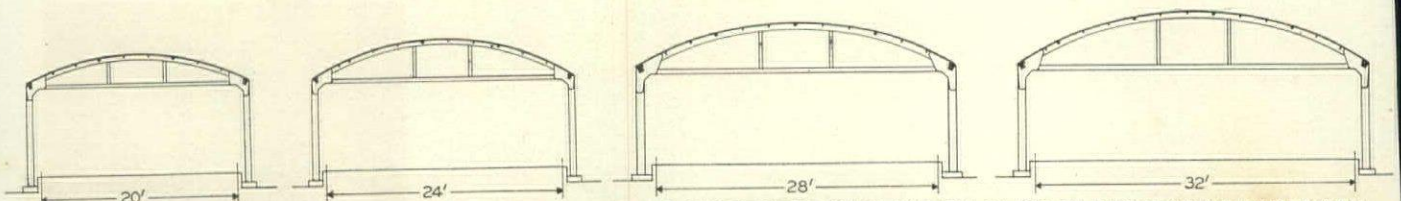


PARTS FROM WARTIME DORMITORIES (LEFT) CAN BE REUSED FOR SCHOOL BUILDINGS (RIGHT), OTHER BUILDINGS





SIDE MEMBERS of curved roof panels are formed by cutting 2 x 8 in. lumber down the center along curved line, then interchanging halves as in sketch above. Sections below show four sizes of arches built from similar panels.



DESPITE SIMILAR PANEL CURVATURE, RISE OF ARCHES INCREASES WITH WIDTH OF SPAN, INCREASING STRENGTH

STRUCTURE AND CURTAIN WALLS

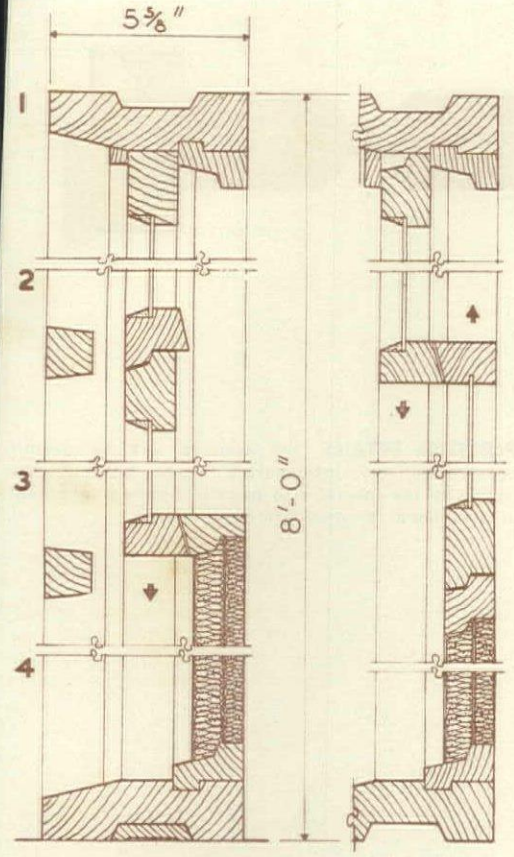
The Ratio Structures system consists of three basic elements: a structural frame and arch roof (above), exterior curtain walls (opposite), and interior partitions (second page following). These elements were developed separately, in an effort to discover the best solution of each specific problem, and then integrated to form a coordinated structure.

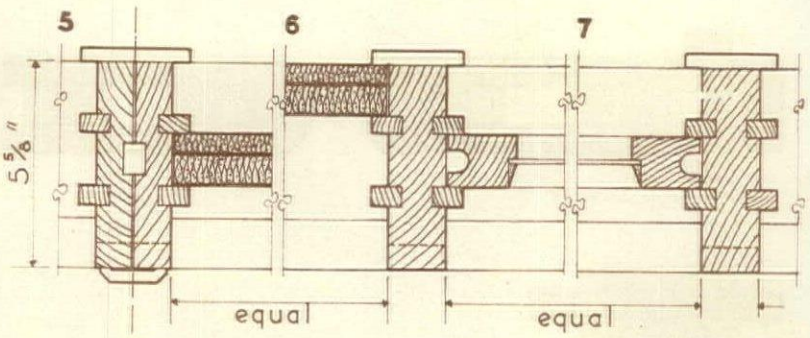
The structural frame leaves the entire enclosed space free for any arrangement of walls and partitions the design may dictate. It consists of two rows of wood posts, set on 10 ft. centers, and connected to one another by collar beams across the span of the arch and by longitudinal beams which absorb its thrust. Connections are stiffened by gusset plates. The roof is formed from curved, plywood covered panels about 3 ft. 4 in. x 8 ft., assembled with staggered joints so that the side members of the panels form continuous arches spanning 20, 24, 28 and 32 ft., according to the number of panels used. This arrangement not only obviates the need for long, heavy panels to span wide spaces, but also eliminates many of the members which otherwise would be needed to support the surface of the roof, since the plywood is stiffened by its curved shape.

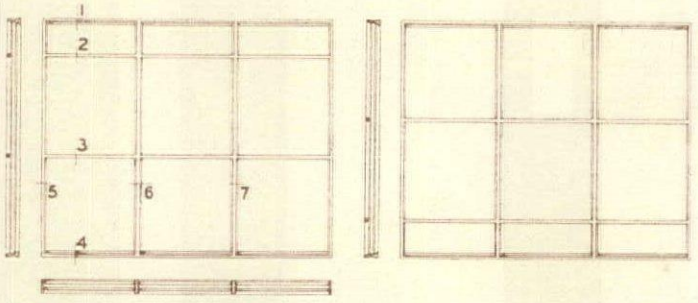
Exterior curtain walls are based on a standard, 8 ft. by 10 ft. frame, which may be used either way up and fitted with windows, doors and solid sections to form a wide variety of panels. Sash slide vertically between the framing members, and solid panels may be insulated according to climate.

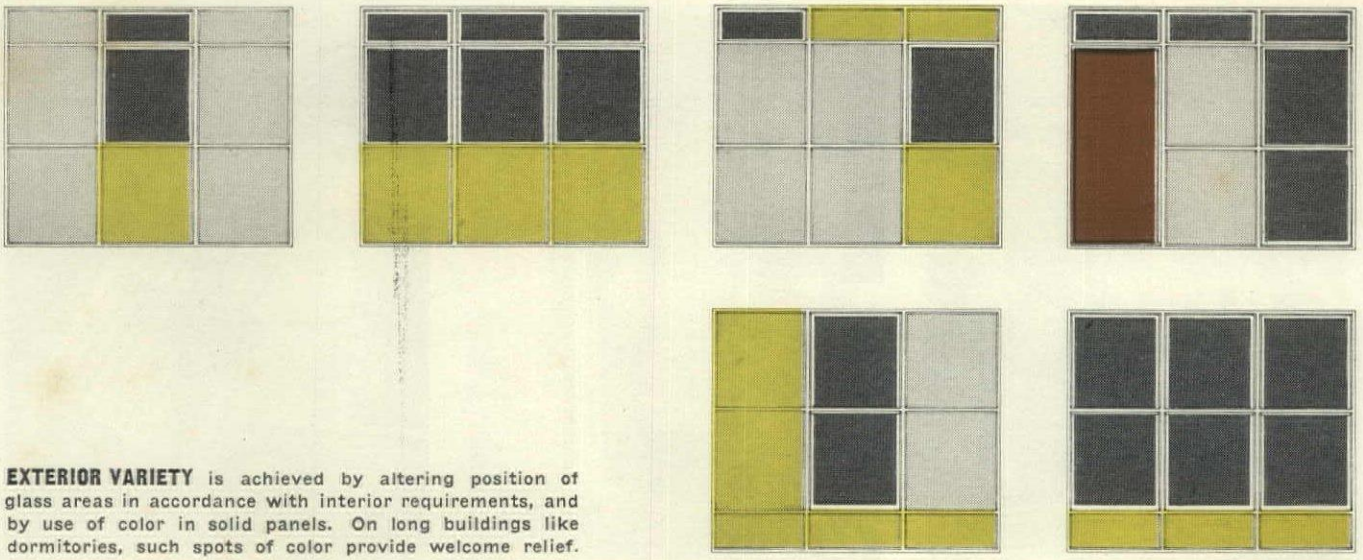


COLUMNS ARE FREESTANDING, REST ON CONCRETE PIER



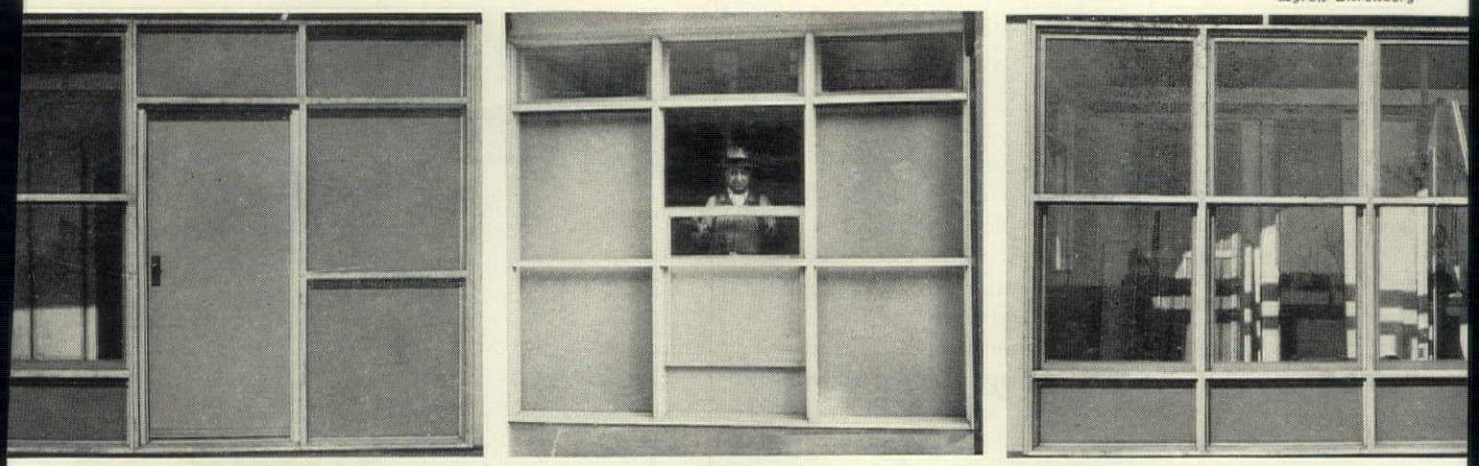




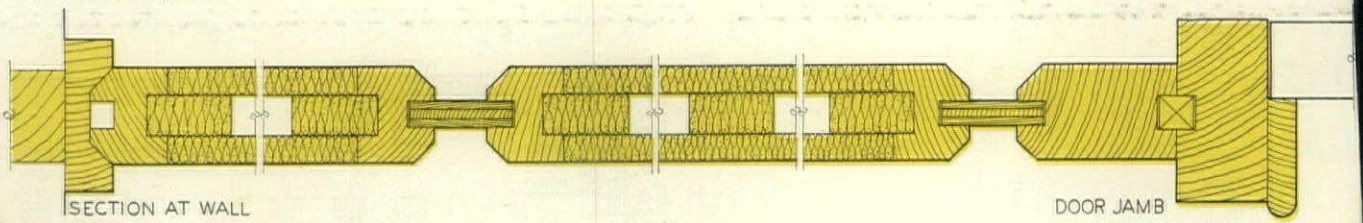


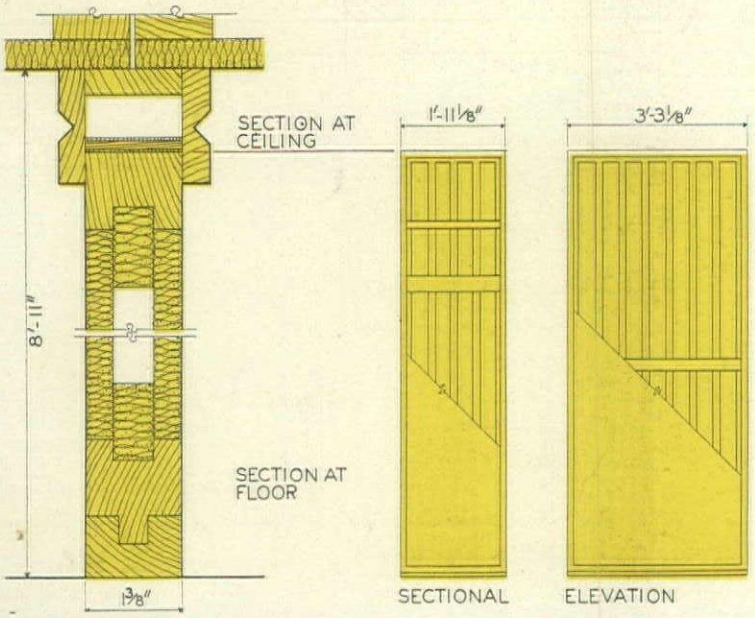
EXTERIOR VARIETY is achieved by altering position of glass areas in accordance with interior requirements, and by use of color in solid panels. On long buildings like dormitories, such spots of color provide welcome relief.

Myron Ehrenberg



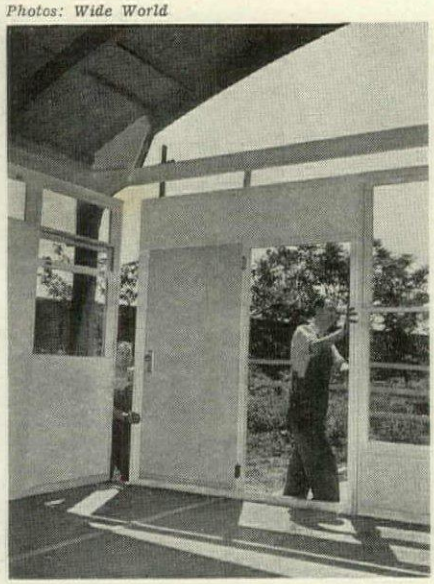
PANELS PROVIDE MINIMUM AND MAXIMUM GLASS WITH EASE. SASH SLIDE IN FRONT OF SOLID SECTIONS

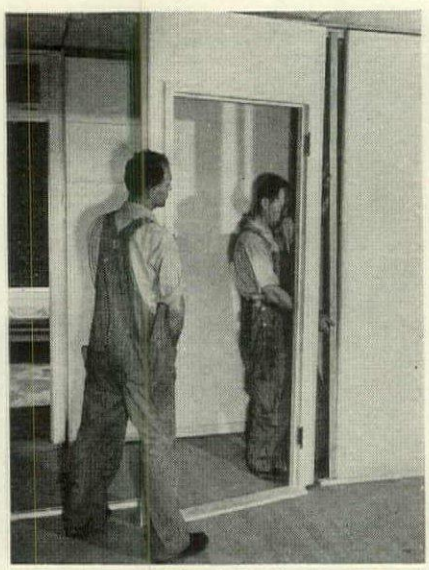




PARTITION DETAILS are worked out to permit construction of intersecting walls without the necessity for special size panels. Spline connection is also used for decoration.

Photos: Wide World *Myron Ehrenberg*







PHOTOS SHOW INSTALLATION OF WALLS (LEFT), PARTITIONS (CENTER AND RIGHT) AND HUNG CEILINGS (BELOW)

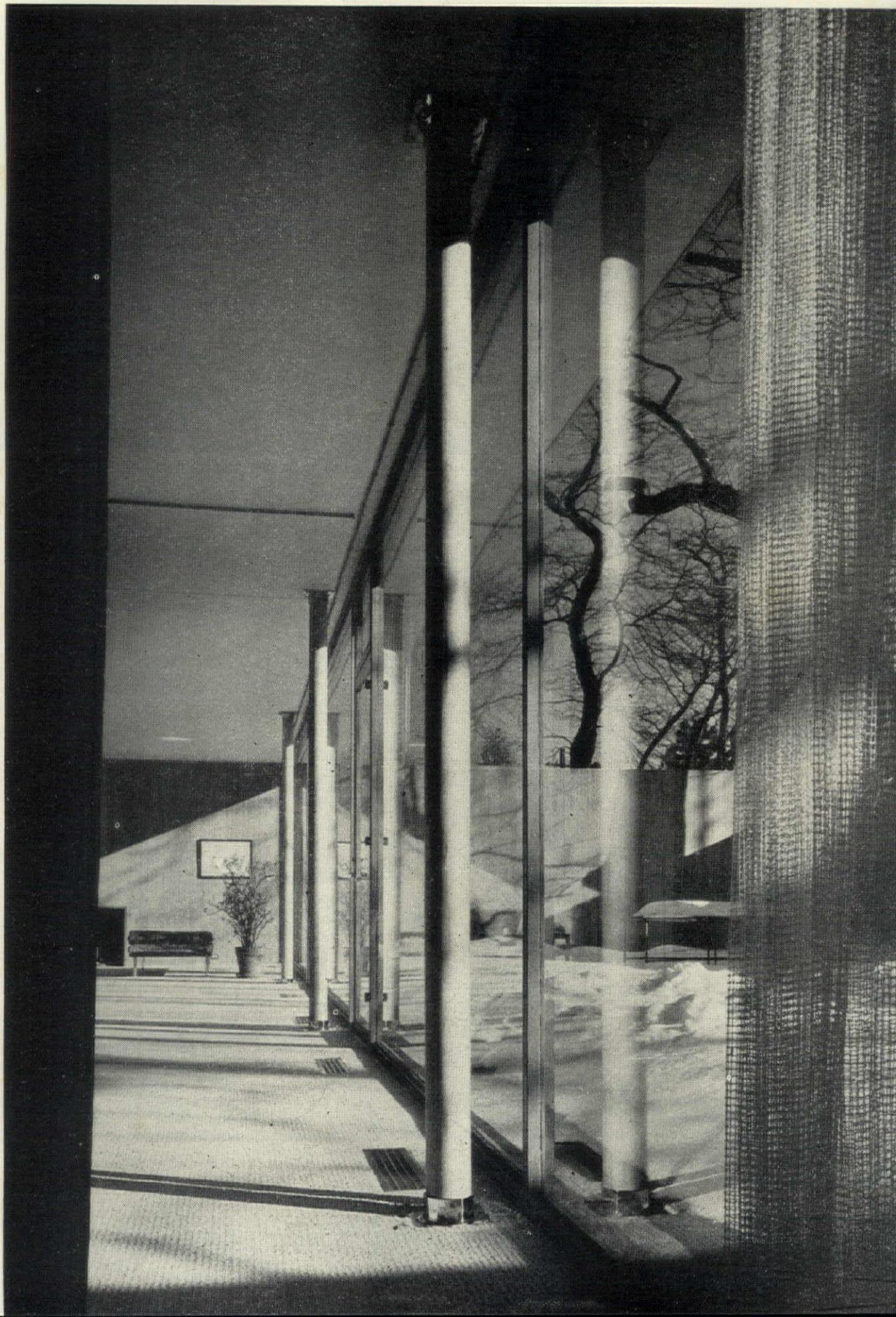
INTERIOR PARTITIONS

The third element in the Ratio Structures system is an unusual type of interior partition, made from laminated fiber board, with wood frames around the edges of the 3 ft. 4 in. x 8 ft. panels. Set in channel-shaped wood "shoes" at the top and bottom, they are connected at vertical joints by plywood splines, made from scrap material left over from the roof panels. Doors are set in separate panels. Partitions are readily moved, and may be demounted and re-used without damage. By painting occasional panels bright colors, and leaving the connecting splines in natural finish, decorative effects are simply and economically achieved.



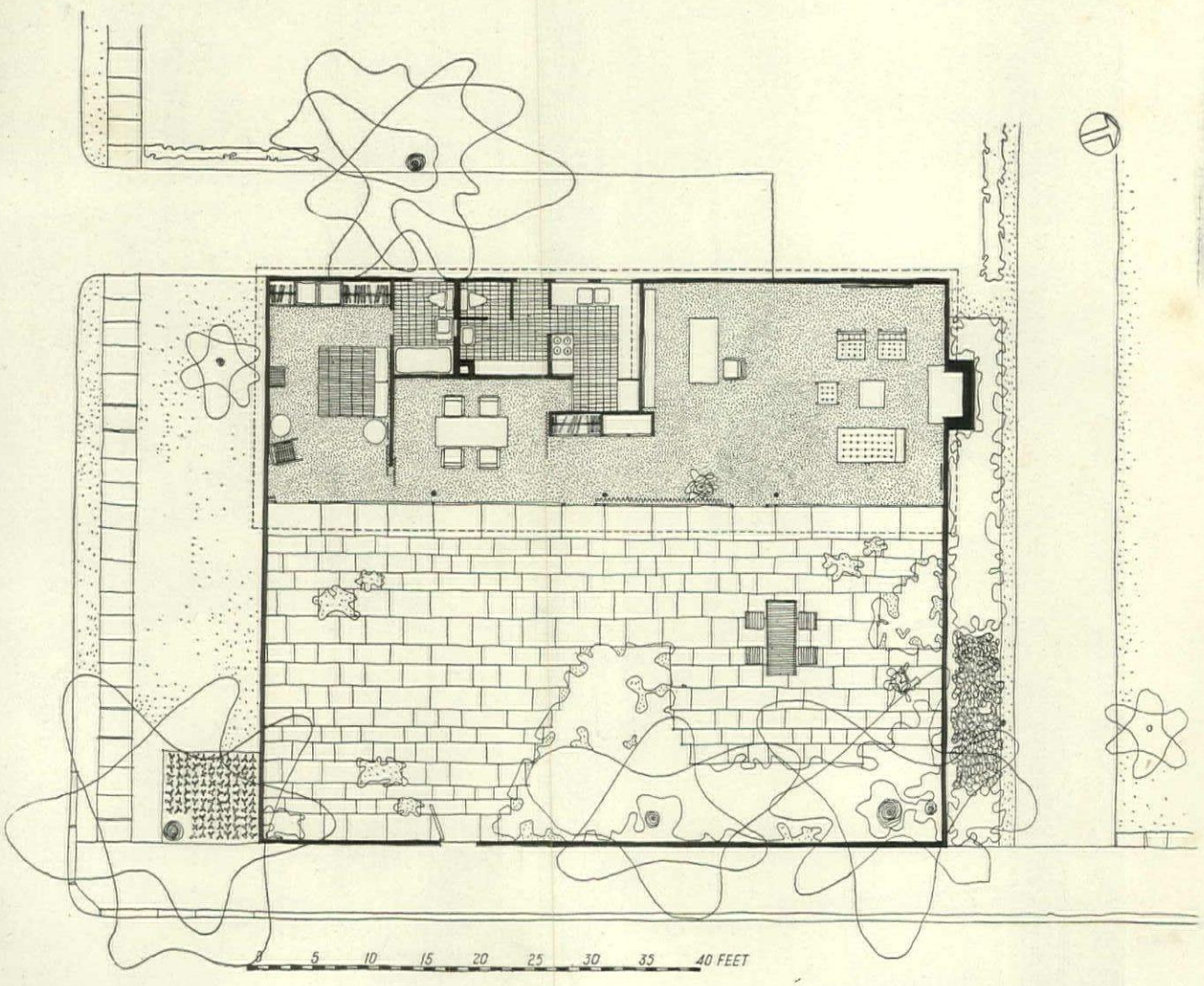
HOUSES

HOUSE IN CAMBRIDGE, MASS., PHILIP JOHNSON, ARCHITECT, S. CLEMENTS HORSLEY, ASSOC.



Earl Stoller, Photo

THIS PICTURE EXPLAINS THE NEED FOR AN ENCLOSING WALL: ENTIRE INTERIOR IS VISIBLE FROM THE OUTD



Nowhere is the complete formality of the basic design better illustrated than in the living room. A chaste fireplace is set in the exact center of a wall discreetly enriched with wood veneer. The furniture (all designed by Mies van de Rohe) is arranged with complete regularity on either side of a square coffee table. Nothing is casual; nothing is accidental. Few people would be at ease in so disciplined a background for everyday living. But the architect, as we have seen, was not concerned with the requirements of anybody except himself.

Despite the regulated, formal perfection of the house, there are many elements which have been popular and will become more so. Rooms so broadly treated are restful. Where protection can be provided, all-glass walls of the type shown provide a maximum of flexibility, since rooms can be wide open or entirely closed, depending on the screens and curtains used. No shelter against the sun was installed here, as the windows face east. Air conditioning eliminated the need for movable sash. Most important of all is the structural system, which creates a roof on isolated posts: with this arrangement, partitions, exterior walls, closets, etc., can be positioned with complete freedom.



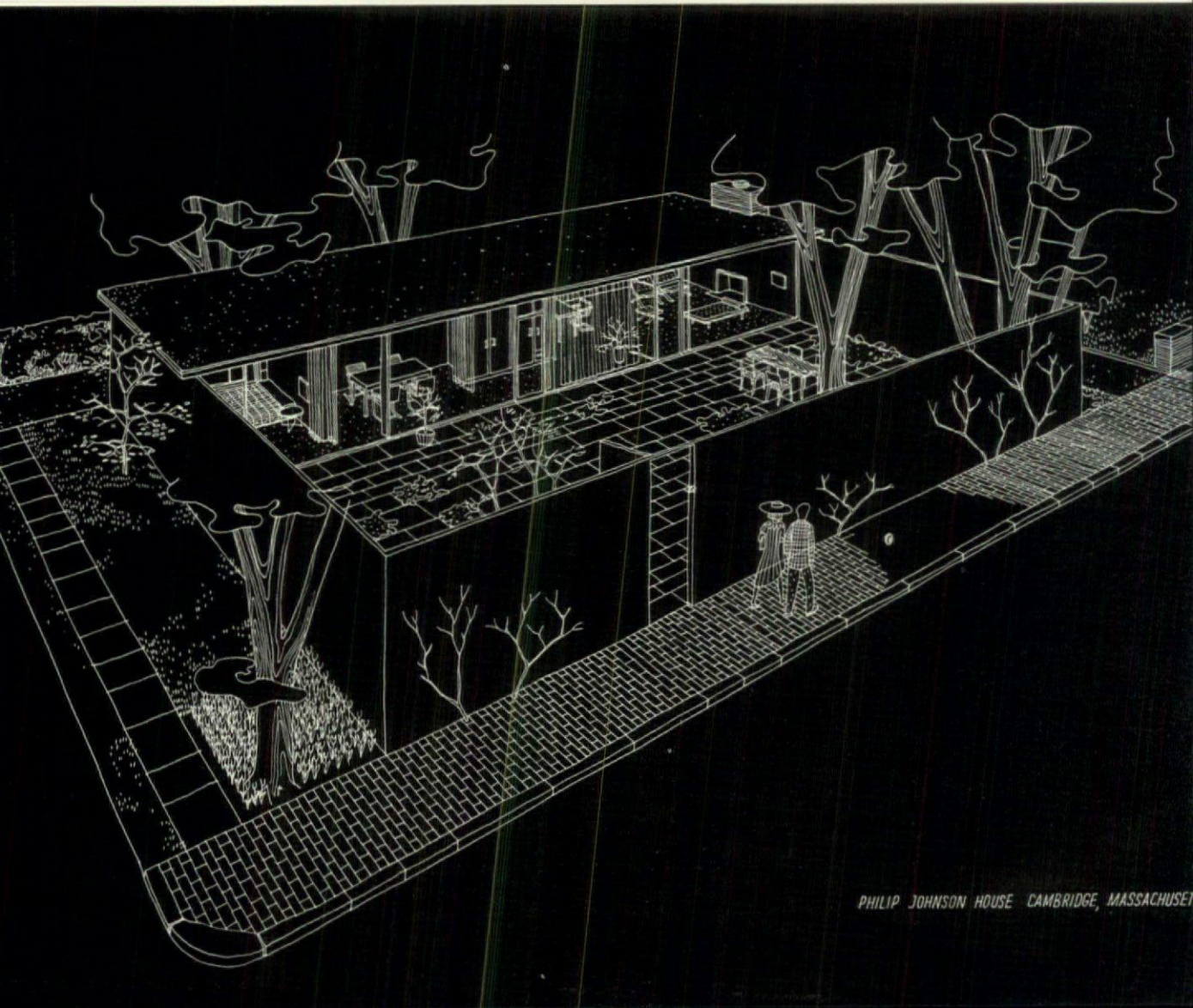
EZRA STOLLER'S SUPERB PHOTOGRAPHS SHOW A ROOM



PHILIP JOHNSON, ARCHITECT, S. CLEMENTS HORSLEY, ASSOCIATE

One of the most obvious and consistent trends in modern architecture has been the tendency to simplify, through standardization and repetition, and through elimination of every element which might possibly be left out. Described in this manner, the process sounds more negative than constructive, but in the hands of an accomplished artist and technician, such as Mies van der Rohe, the approach has produced buildings of remarkable quality. Mies' Tugendhat House, built in Czechoslovakia over a dozen years ago, is considered a masterpiece by architects the world over. This little house in Cambridge is probably the best example in America of the same attitude towards design. For an average U. S. family this house would be almost totally unlivable. But it was not built for an average U. S. family. It was built for the architect, who is also a bachelor. In its room arrangement and accommodations it resembles a small apartment more than it does a house. In its use of a high wall which encloses almost all of the site, it disregards entirely the traditional American neighborhood pattern, which does not recognize such barriers between one house and its neighbors. Nevertheless, it is hard to see how the house could have been used otherwise, for, as the facing photograph shows, its wall of glass exposes the entire house and its workings to the outside.

IRDSEYE VIEW BELOW ILLUSTRATES THE STUDIED RELATIONSHIP BETWEEN THE HOUSE, WALL AND FRONT COURT



PHILIP JOHNSON HOUSE CAMBRIDGE, MASSACHUSE

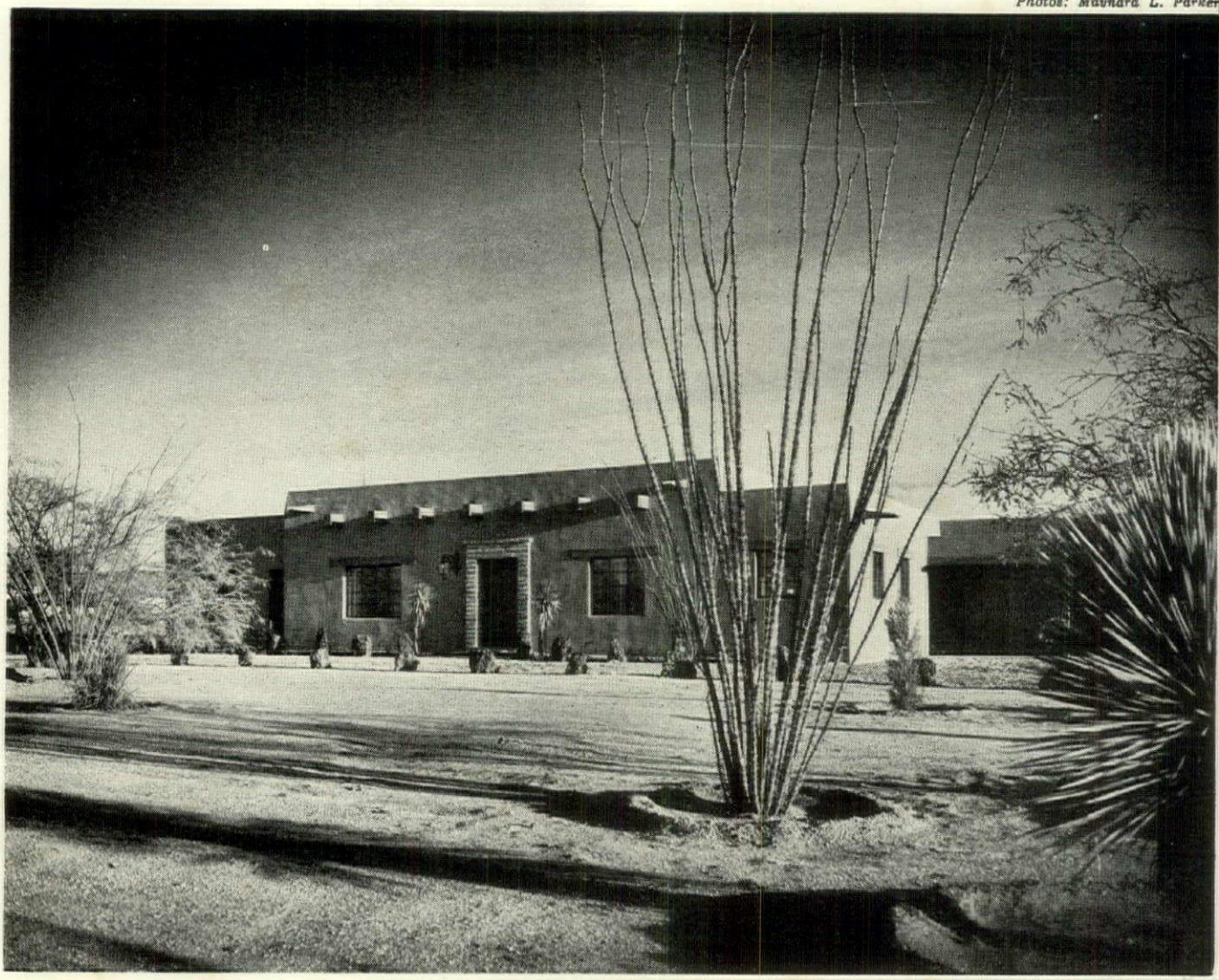
PHILIP JOHNSON, ARCHITECT. S. CLEMENTS HORSLEY, ASSOCIATE

O THE LAST PLANT AND ASHTRAY. IT IS HARD TO IMAGINE SOPHISTICATED SIMPLICITY CARRIED ANY FURTHER

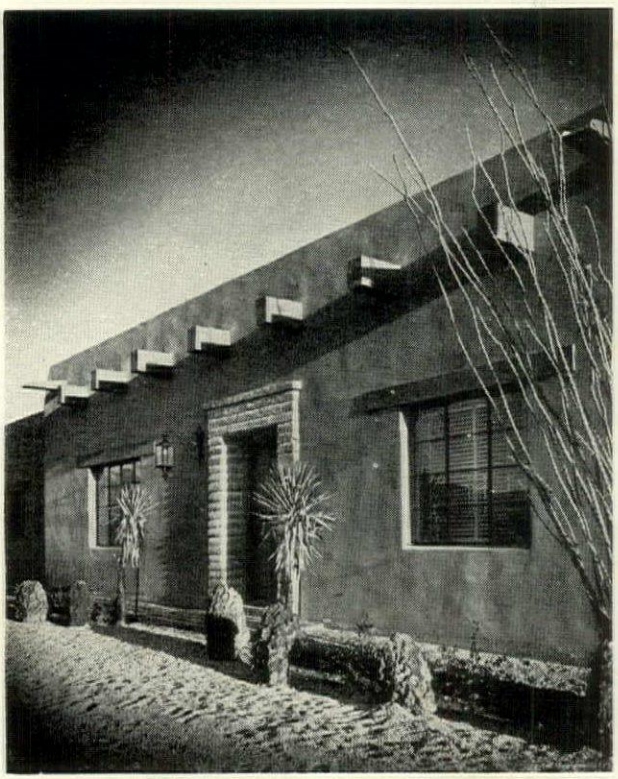


HOUSE IN TUCSON, ARIZ. Traditional adobe construction demonstrates its survival

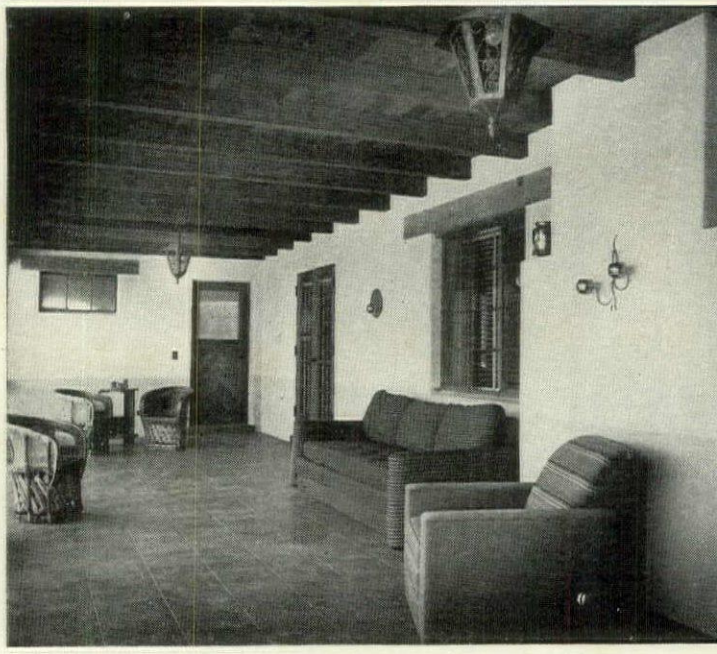
Photos: Maynard L. Parker



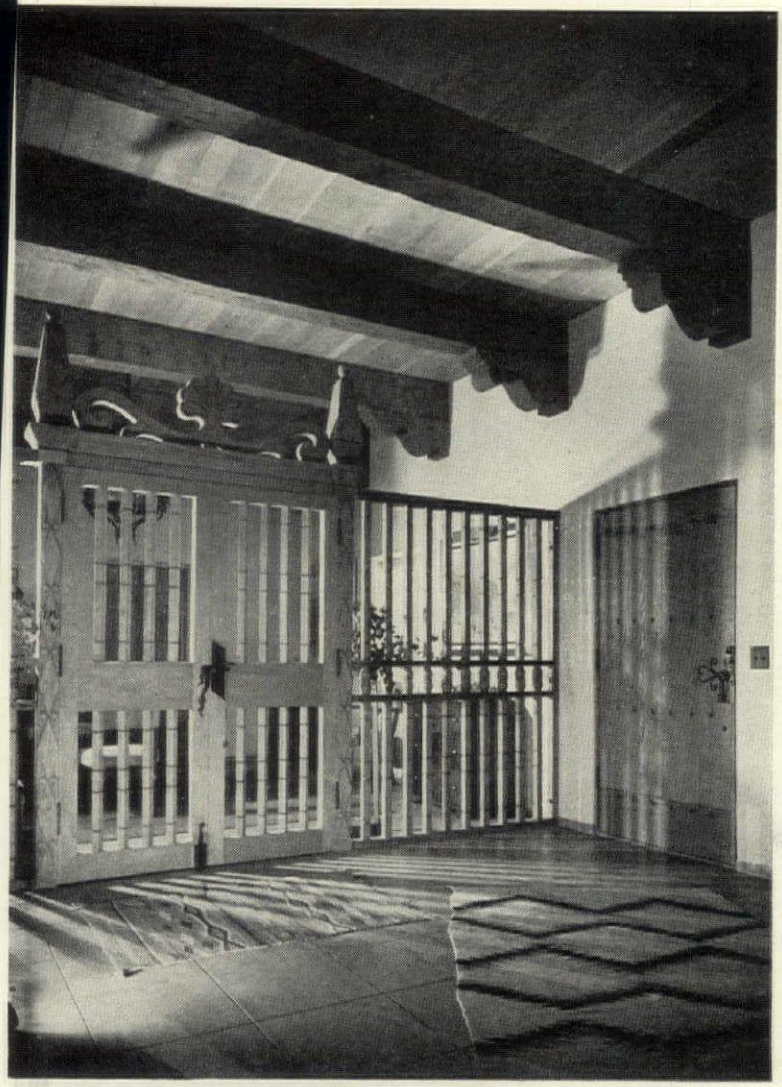
ADOBE LASTS INDEFINITELY IN DESERT SURROUNDINGS



"PORTAL" IS YEAR-ROUND LIVING CENTER OF THE HOUSE



...use for the Arizona desert. Richard Morse and William Peters, Jr., Associate Architects.

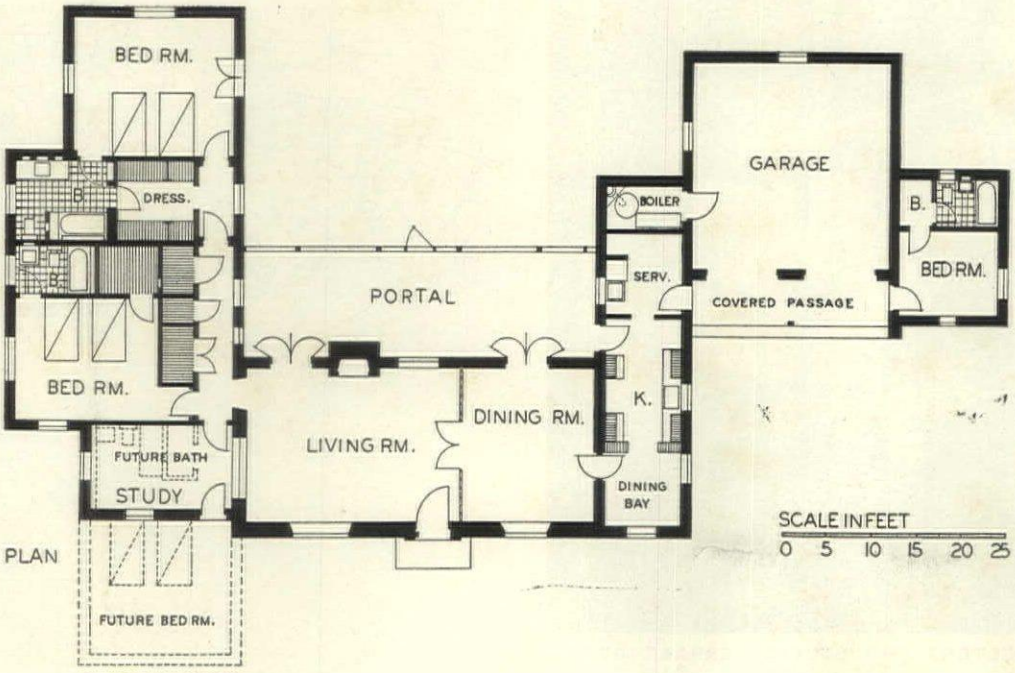


A WOOD SCREEN SEPARATES THE LIVING AND DINING AREAS

Adobe is one of the oldest building materials, and one of the most limited. To those not familiar with construction practices and traditions in the Southwest, it may seem odd that its use has persisted in the face of competition from newer products. In the region, however, and under existing labor conditions, adobe serves very well indeed.

Because the material is so limited, it makes comparatively little difference whether the architect using it favors a modern or traditional approach. Except for the choice of detail, both come to about the same thing. This house is a good case in point: were the Spanish Colonial touches eliminated in favor of a more modern scheme, the house would remain essentially what it is, a traditional adobe structure, well adapted to local living requirements. The plan is familiar in many parts of the country—a central living room flanked by bedrooms at one end, and services at the other.

CONSTRUCTION OUTLINE: STRUCTURE: Exterior walls—adobe brick, 3 coats stucco; inside—Rocklath, U. S. Gypsum Co., and plaster. Floors—concrete slab. ROOF—built-up, Philip Carey Co. FIREPLACE: Damper—H. W. Covert Co. INSULATION: Roof—glass wool, U. S. Gypsum Co. WINDOWS: Sash—Fenestra steel, Detroit Steel Products Co. Glass—double strength, quality A, Libbey-Owens-Ford Glass Co. HARDWARE—Schlage Lock Co.; special handwrought by Vasquez Forge. KITCHEN EQUIPMENT: Range and refrigerator—Norge Div., Borg-Warner Corp. BATHROOM EQUIPMENT—Crane Co. Cabinets—Hall-Mack, Hallenscheid & McDonald. PLUMBING: Hot and cold water pipes—Anaconda copper, American Brass Co. Water heater—Crane Co.



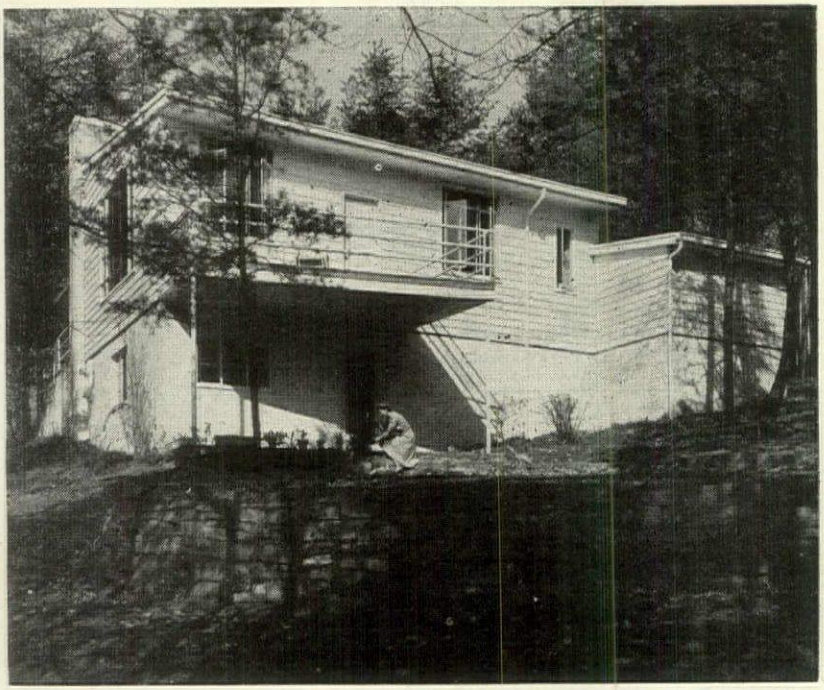
PLAN

HOUSE IN KNOXVILLE, TENN. An unusual and very successful plan, developed t

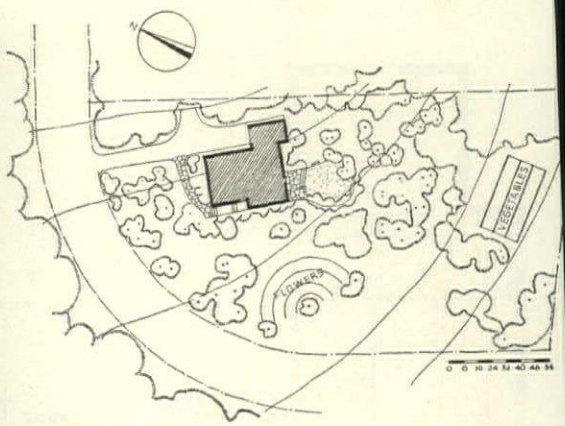
Photos: Billy M. Glenn



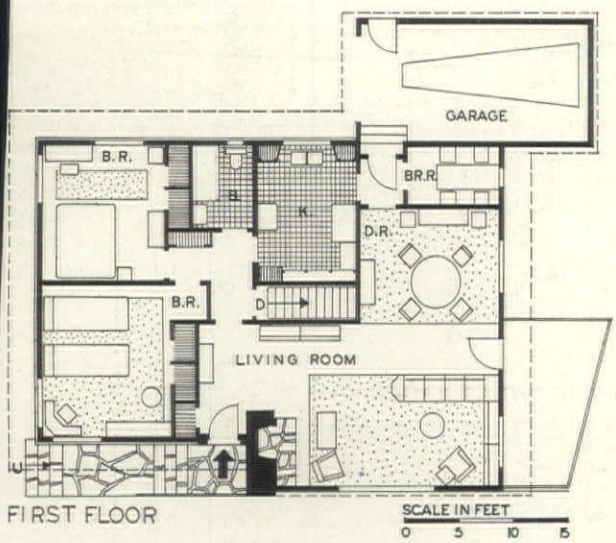
THE ENTRANCE SIDE FACES DOWNHILL, AWAY FROM THE STREET, GIVING THE FAMILY INCREASED PRIVACY

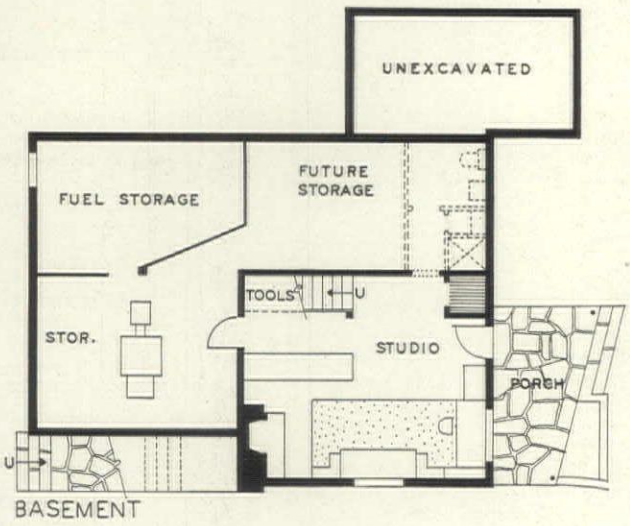


DECK OFF LIVING ROOM SHELTERS THE STUDIO TERRACE BELOW



lems created by an awkwardly sloping site. The house was designed by TVA Architect Mario Bianculli.



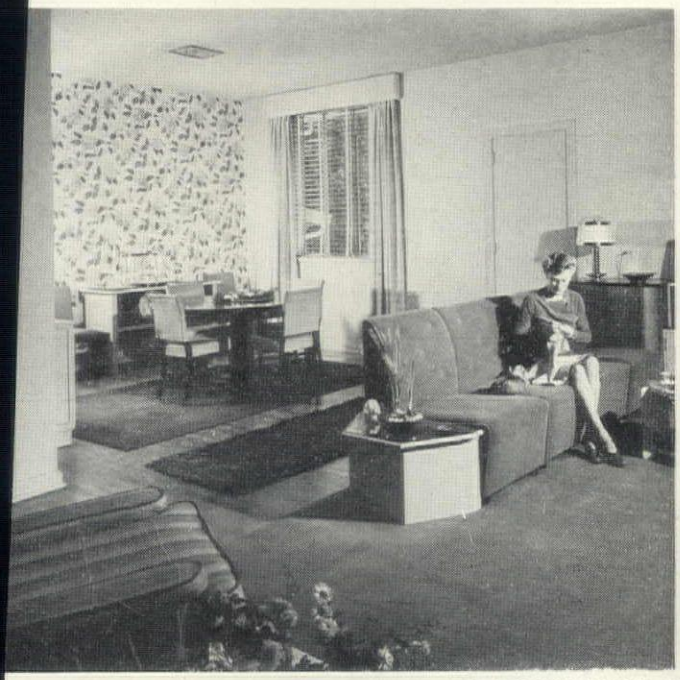


So many well-designed hillside houses have been erected in the past ten years that a whole series of excellent plan patterns has been developed. A good part of the interest attached to this house stems from the fact that it uses none of them. It is the placing of the entrance doorway which gives the plan its special character. The door's location was established to discourage salesmen. According to the owner it has worked very well. A service door is linked with the garage entrance.

The main rooms on both upper and ground floor levels face an extensive view. The large windows, according to the architect, would have been larger but for the restrictions on materials—in this case, stock window frames. Installation of a downstairs bathroom is also being held in abeyance for the same reason.

The room labeled "studio" meets a common need which is rarely considered in small house design, the demand for an extra space which may be used for study, work, play and informal entertainment. Interiors and landscaping were carried out by Katherine Potts Bianculli.

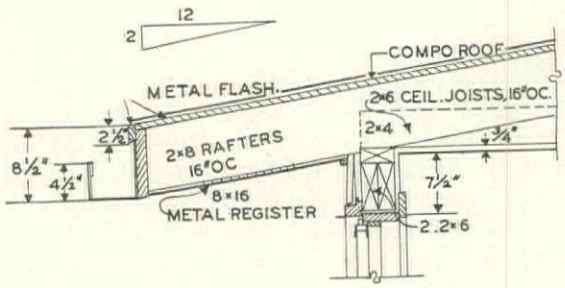
CONSTRUCTION OUTLINE: STRUCTURE: Exterior walls—brick, studs, sheathing, building paper, poplar siding. Ceiling (studio)—Homasote, Homasote Co.; others—plaster on Sheetrock, U. S. Gypsum Co. ROOF—composition, Flintkote Co. Deck—canvas. INSULATION: Outside walls—Red Top rockwool, U. S. Gypsum Co. SHEET METAL WORK: Flashing—galvanized copper bearing steel, Republic Steel Corp. WINDOWS: Sash and screens—Detroit Steel Products Corp. Glass—Libbey-Owens-Ford Glass Co. FLOOR COVERINGS: Kitchen—linoleum, Congoleum-Nairn, Inc. WALL COVERINGS: Bedrooms—wallpaper, Isgo Wallpaper Corp. PAINTS—Benjamin Moore Co., Medusa Products Div., Medusa Portland Cement Co., Sherwin-Williams Paint Co., Johnson Wax Co. WOODWORK—Huttig Sash & Door Co. and Roach & Musser. HARDWARE—P. & F. Corbin. KITCHEN EQUIPMENT: Range and refrigerator—General Electric Co. BATHROOM EQUIPMENT and HEATING—American Radiator-Standard Sanitary Corp.

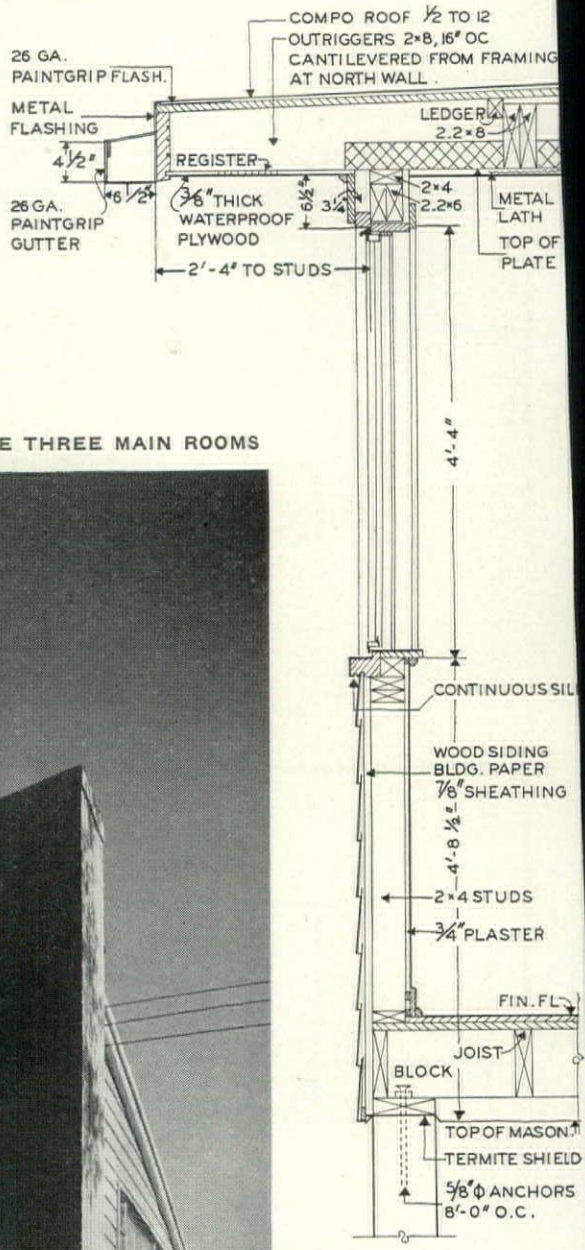




LIVING AND DINING AREAS AND ENTRANCE HALL OCCUPY ONE LARGE ROOM SUBDIVIDED ONLY BY FURNITURE

HOUSE IN KNOXVILLE, TENN. MARIO BIANCULLI, ARCHITECT





CLOSE-UP OF ENTRANCE SIDE SHOWS GOOD EXPOSURE FOR THE THREE MAIN ROOMS

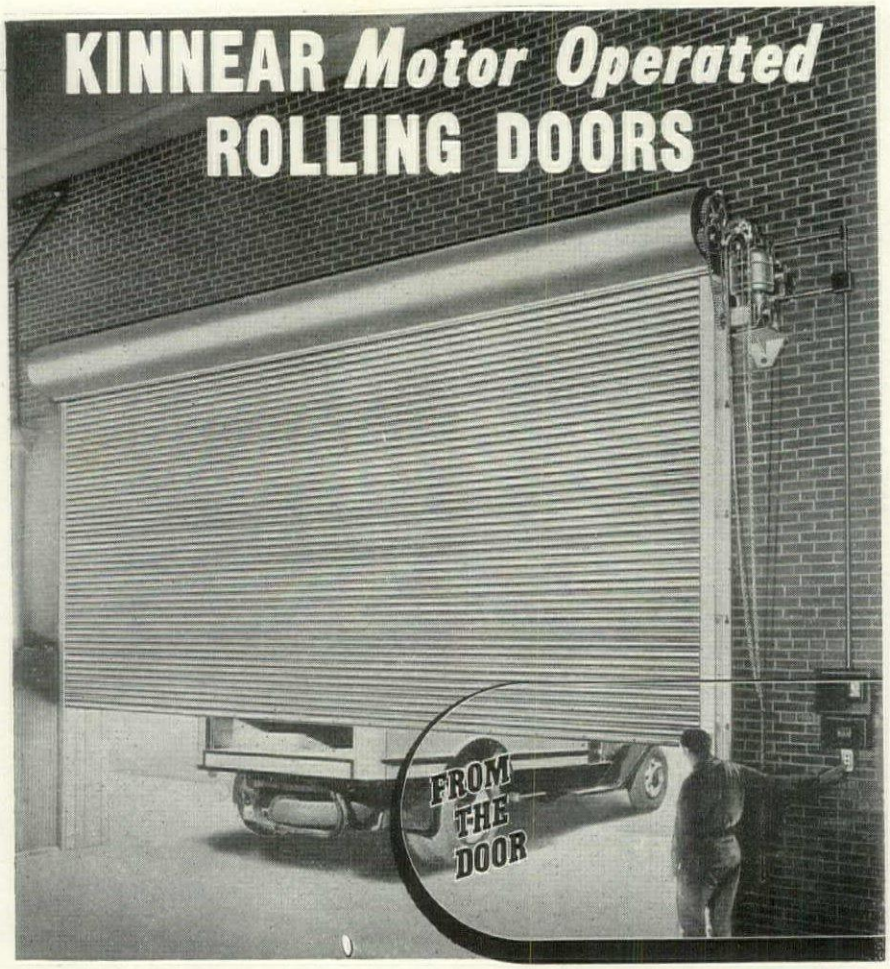




Rō-Way OVERHEAD TYPE DOORS ARE A PRODUCT OF ROWE MFG. CO., GALESBURG, ILL.

"There's a Ro-Way for every Door way!"

KINNEAR *Motor Operated* ROLLING DOORS

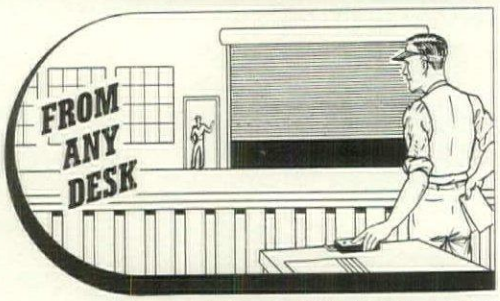


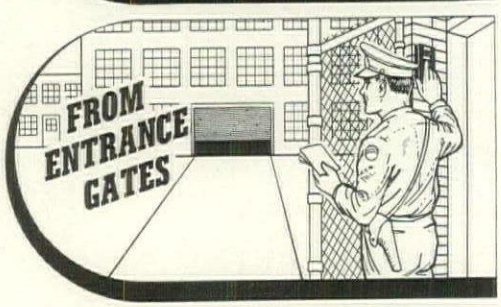
Controlled from any Location

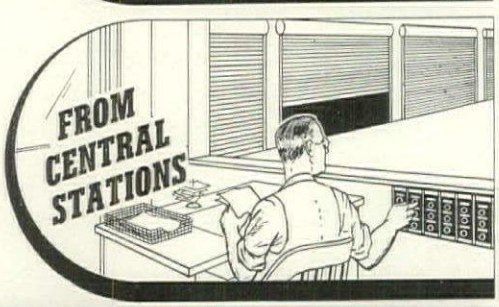
You save time and work with doors you can open from remote stations! Quick opening and closing cuts heat losses in winter, too.

In addition to remote control, Kinnear Rolling Doors give you extra value in other ways. By coiling compactly above the doorway, they permit full use at all times of all space around openings . . . leave ceilings clear for conveyors . . . avoid blocking off light from nearby lights or windows . . . open out of the way and out of reach of damage. Their strong, durable construction affords valuable protection against intrusion, sabotage, and the elements. Easy to install in old or new buildings. Write today for catalog .

FOR WARTIME NEEDS, Kinnear WOOD Rolling Doors, with motor or manual control, are still available. These time-proved doors save vital war metals! The Kinnear Mfg. Co., 1640-60 Fields Ave., Columbus 16, Ohio.







SAVING WAYS IN DOORWAYS **KINNEAR ROLLING DOORS**

MONTH IN BUILDING

(Continued from page 48)

life. . . I would like to see what would happen to monopolistic labor and business practices if the industry attained long term stability. . . .

"Take out your pencils sometime and do your own figuring. Figure your own profit. Figure how much you could reduce costs and prices. Figure how much more private housing and private construction there would be with lower prices. And then figure how little it would cost the public to rebuild the

Acme



HENDERSON: no belly-ache nostrums

needed and justifiable public works every generation. We, the public, could afford reclamation projects, not as made work, either, if we didn't have to pay your idle plant expense.

". . . Keep in mind that the airplane industry and other war babies are looking at your idle plant expense and wondering if you are not vulnerable."

In the atmosphere of healthy self-criticism thus provided by Henderson, Council members sat down for sober consideration of their own postwar platform. Approved were 21 old but sturdy planks. Among them: advance planning for both private and public construction; revision of building codes; reduction of costs; aggressive merchandising; a subsidized rental plan instead of direct federal housing.

RESOLUTION

For 25 years Herbert U. Nelson has urged upon real estate men his own profound sense of their destiny as a national force. Under his dexterous fingers the National Association of Real Estate Boards, which lacks any portentous numerical strength, has emerged as a fairly formidable guardian of every American's right to own a home and, incidentally, to sell one. Nelson's success at discreet, off-

(Continued on page 102)

CAN YOU GUESS? *What America Wants in Postwar Housing*

QUIZ ON CRANE PUBLIC PREFERENCE POLL

Check your guess with the answers shown below.

WE asked 200,000 home owners and prospective home owners to vote on their preferences in equipment for the home they plan to build after the war.

The main purpose of this survey was to aid Crane designers and engineers in developing a postwar line of plumbing and heating which would suit the tastes and desires of tomorrow's home owners.

However, the thousands of answers we received are so indicative of the thinking your clients are doing now on the home they are planning that we believe you would be interested in learning more about it.

Obviously, no survey can cover all the factors that influence final selection such as cost, desires of other members of the family, etc. The replies, however, do represent an interesting cross-section of public opinion and as such can be of great value to anyone interested in postwar design or construction.

You might like to check your thinking with this expressed opinion of America's future home market. You will find the actual percentages of the questions in this quiz at the bottom of this page.

1 ....% What percent prefer a single bathroom with combination tub and shower as against two bathrooms with shower stalls?

2 ....% What percent want a powder room?

3 ....% What percent want a shower over the tub?

4 ....% What percent prefer a small kitchen? (6x9 Ft.)

5 ....% What percent prefer a medium-sized kitchen? (9x12 Ft.)

6 ....% What percent prefer a large kitchen? (14x16 Ft.)

7 ....% What percent want a breakfast nook in the kitchen?

8 ....% What percent prefer storage cabinets in the kitchen rather than a separate pantry?

9 ....% What percent want the sink under the window?

10 ....% What percent want a basement?

11 ....% What percent want a utility room instead of a basement?

12 ....% What percent prefer steam or hot water heating?

13 ....% What percent prefer warm air heating?

ANSWERS

1 . . . 72%	4 . . . 12%	7 . . . 61%	10 . . 62%
2 . . . 79%	5 . . . 53%	8 . . . 74%	11 . . 31%
3 . . . 73%	6 . . . 32%	9 . . . 90%	12 . . 47%
			13 . . 42%



THE questions shown are only a few taken from the Crane Survey. A more complete digest of the results of this poll augmented with statistical data is presented in an interesting book which will be sent without charge to anyone desiring a copy.

CRANE CO., 836 S. Michigan Ave.
Chicago 5, Ill.

Please send me a copy of "What America Wants in Postwar Housing."

*Name*_____

*Address*_____

*City*_____ *State*_____

CRANE

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVENUE, CHICAGO 5

PLUMBING • HEATING • PIPE • PUMPS • FITTINGS • VALVES

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS



This
LOW-COST, LONG-WEARING FLOOR IS AVAILABLE TODAY
Specify ARMSTRONG'S Asphalt Tile

IF you're looking for an attractive, low-cost floor for today's authorized new construction and remodeling, Armstrong's Asphalt Tile will satisfy your needs. This smart floor is available without priorities.

Armstrong's Asphalt Tile is particularly suited to commercial and public building installations for it combines good looks with durability—a double feature that clients desire. Design possibilities are virtually unlimited because it's hand-set a block at a time and there is a wide range of harmonious plain and marble colors. And these colors go all the way through each tile. Armstrong's Asphalt Tile will withstand heavy traffic with a minimum of cleaning. It is moisture- and alkali-resistant and can be installed on concrete subfloors in contact with the ground.

For complete information about Armstrong's Asphalt Tile, consult Sweet's, Section 11, Catalog No. 46, or write for the free booklet, "Low-Cost Floors with a Luxury Look." Address Armstrong Cork Company, Resilient Tile Floors Department, 2312 Duke Street, Lancaster, Pa.

● *Shown above is the General Office of the Simplex Time Recorder Co., Gardner, Mass. The floor is Armstrong's Asphalt Tile in Tan and Burgundy Marble with Buff feature strips. Installation: Kesseli & Morse Company, Worcester, Mass. Architect: Stanley Kendall.*

ARMSTRONG'S RESILIENT TILE FLOORS

INDUSTRIAL ASPHALT TILE (A) GREASEPROOF ASPHALT TILE
CONDUCTIVE ASPHALT TILE • LINOTILE (OIL-BONDED)

MONTH IN BUILDING

(Continued from page 100)

stage manipulation of the rather broad range of national policies which he assumes to be his concern is due in part to an excellent sense of timing.

In spite of his more than professional distaste for the New Deal and its public housing ventures, NAREB's executive vice-president has been seen with his feet under more than one federal housing conference table. In recent years, to the discomfort of some of its members, NAREB's annual convention denouncements of public housing have been more perfunctory than vigorous. But when realtors met last month in Cleveland it was clear that Nelson, scenting a strong political wind from Kentucky, had decided it was time to pull out some of the stops.



ROBERT GERHOLZ

"The public housing experiment" has been proved "a failure and a mistake," realtors jubilantly resolved, calling for Congressional investigation of the cost of all public slum-clearance projects. The National Association of Home Builders, also meeting in Cleveland, concurred heartily, added: "In most instances public construction costs have been exorbitant and the shelter has not given relief to those in greatest need. The movement as presently constituted is a social and political menace and has already become a vested interest of tenants and political jobholders. . . Permanent housing now owned by local or federal governments should be disposed of to private enterprise. Home builders will unite with other groups who oppose further use of public funds for this questionable enterprise."



JOHN GALBREATH, CYRUS WILLMORE

NAREB's new president: handsome John W. Galbreath, Columbus, Ohio, good judge of both horses and real

(Continued on page 104)



Our materials are non-critical, supplies and facilities are ample, and shipments are being made with reasonable promptness.

Public School 114, Bronx, New York City; sand-blasted Tremolite panels; Eric Kebbon, Architect.

Tremolite spandrels (with sand-blasted design). J. Fenimore Cooper Junior High School, 1832 Madison Ave., New York; Eric Kebbon, Architect.

Sand-blasted Tremolite . . .

A PREVIEW OF POST-WAR PANEL TREATMENTS

In addition to their decorative value, sand-blasted Tremolite spandrels and panels, assure permanence and lasting economy. Initial cost is moderate because sections cut as thin as ⅞″ are practical. The school buildings pictured above illustrate this modern treatment and the use of the interesting sand-blasted effects which will no doubt feature school, hospital and institutional building design in the post-war period. In fact, the designers of many structures of the 194x period that now dot the American scene have used Alberene *Dark Stones* for facade treatments.

• • •

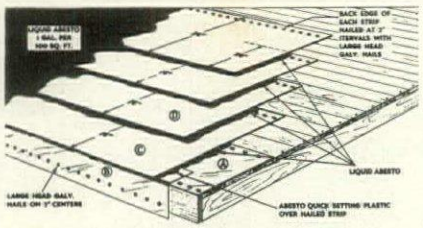
A request on your business letterhead will bring you samples, conveniently boxed, showing the range of stones, including black and mottled dark blues and greens. Please address Alberene Stone Corporation of Virginia, 419 Fourth Avenue, New York 16, N. Y. Quarries and Mills at Schuyler, Virginia. Sales offices in principal cities.

ALBERENE TREMOLITE

Moderate in Cost . . . Negligible in Upkeep

ABESTO
ASSURES BETTER ROOFS AT A SAVING

A ROOF IS A PROTECTION — MAKE IT ONE THAT HAS BEEN PROVEN STRONG AND LASTING.



CONSIDER THE MANY ABESTO ADVANTAGES

1. Applied cold — Abesto requires no heat, eliminating hot kettles and saving valuable man-hours.
2. Abesto is resistant to oxidation which is the secret of its long-lasting quality. It is a cold tempered alloy of the finest, soft synthetic asphalts combined with exclusive base formulas.
3. Abesto is extremely adhesive. It will bond to a roof and seal layers of roll roofing together tightly.
4. Abesto "cures" retaining its elasticity. It will not crack or check in cold weather and will not liquefy or run in summer heat.

We will be glad to furnish upon request our specification sheets designed to show the various types of construction for which Abesto is used.

PERMANENT WEATHER PROOFING — NEW ROOF CONSTRUCTION & RE-ROOFING

ABESTO MFG. CO.
MICHIGAN CITY, IND.

MONTH IN BUILDING

(Continued from page 102)

estate. Instructed by home builders to press for 1944 modification of L-41 to permit partial resumption of normal building operations was NAHB's hard-hitting new leader, Robert P. Gerholz, Flint, Mich.

FOLD-UP AT NORFOLK

First big Title VI development to go sour, Riverdale at Norfolk, Va., last month bounced back into the reluctant arms of the Federal Housing Administration. Riverdale's failure hinges on one of the U. S. Navy's major successes. Intended to house workers the Navy thought it would need to repair sub-damaged ships, the 1,600-family unit has more vacancies than tenants. When offensive action licked the submarine menace in the Atlantic, the Navy canceled its plans to add a new section to the Norfolk yard for ship repair and the expected workers never arrived.

But Riverdale had other troubles. Even in crowded Norfolk, prospective tenants balked at the coal-burning stoves, used for both cooking and heating, installed in all units at the insistence of WPB. Nor was there adequate public transportation to connect the project with working and shopping centers.

Built by Levitt & Sons, one of the first big developing organizations to swing aggressively into war housing, Riverdale's 400 four-family buildings were intended to rent for a time, but eventually to sell. When Levitt began to make quitting motions the Reconstruction Finance Corp. loomed up surprisingly as the mortgagee in the case, presented a curious financial paradox: The government had insured itself, was busy passing premiums from one pocket to another. To ease hoped-for unloading to private investors, the total RFC loan of $4,600,000 had been handled as 400 individual mortgages—one for each building—all FHA-insured.

No formal foreclosure was instituted. Mortgagor Levitt voluntarily handed his title to RFC, which promptly turned the property over to FHA, got debentures in exchange. What FHA would do about the $4,600,000 bag it was holding was not yet clear. While first step would probably be to improve transportation, FHA would have to do much more to make Riverdale attractive to renters.

WAR HOUSING VACANCIES

What happens this month along the tank-rutted roads that lead to Rome

(Continued on page 106)



Compact Kitchen; Capacity 600 complete meals per day. Planned and equipped by The John Van Range Co.

Let us detail . . .

Your Kitchen Blue Prints

Provision for mass feeding has become a MUST to architects responsible for industrial and commercial projects as well as for hospitals, schools and other public institutions. Because of the highly specialized nature of food service planning, leading architects find it profitable to avail themselves of the assistance of

JOHN VAN RANGE
FOOD SERVICE ENGINEERING

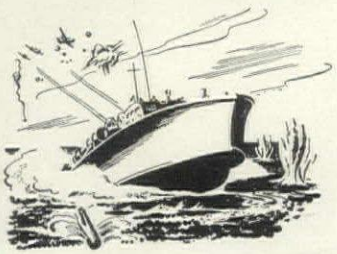
When you have such projects on your boards or in prospect you, too, will find our help acceptable. We will utilize the available floor space to maximum advantage and locate all service intakes and outlets on your own blue prints. We have been serving the profession in this way for nearly a century.

Proceeding from a sound architectural plan we design, manufacture and install all equipment, both for preparing and for serving food. Competent engineering and expert craftsmanship combine with superior materials to reduce costs of operation and maintenance.

We invite your inquiries

The John Van Range Co.
EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD

Branches in Principal Cities
328 EGGLESTON AVE., CINCINNATI, O.



Fresh food on the high seas during long, heavy-action periods away from port is the result of compact, efficient refrigeration.



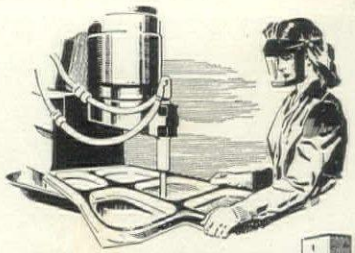
Self-Contained ¼ h.p. Refrigerating Unit



Cool, clean air protects the life of the wounded in Army hospitals. Special aircraft refrigerators safeguard serums and plasma.



Aluminum Aircraft Refrigerator



Peak welding efficiency is made possible by cooling of welding tips with water or brine held at the right temperature.



Spot Welder Tip Cooling Unit



Tool life is increased and rejections are fewer when cutting oils used in high-speed machining are properly cooled.



Refrigerating Unit



The health of our armed forces is protected by dependable refrigeration in cantonments, huts, barracks, and on ships.



14 Cylinder Refrigerating Compressor



Super accuracy in gauge rooms is possible when the air is clean, dehumidified, and maintained at a constant temperature.



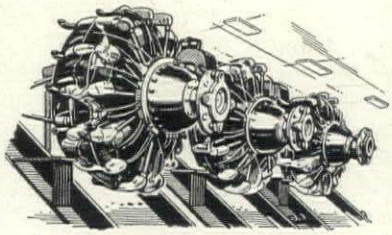
3 h.p. "Packaged" Air Conditioner



Protection in the tropics against the ravages of humid atmosphere and vermin is necessary to preserve food and equipment.



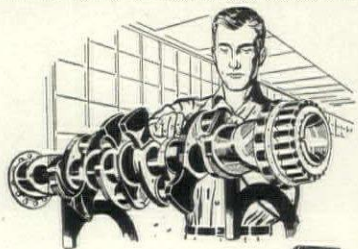
Portable Panel Refrigeration Unit



Identical performance of aircraft engines is assured by operation tests with carburetor air kept at the same temperature.



14 Cylinder Air Conditioning Compressor



Clean, dry atmosphere is vital for machining sensitive metal surfaces where a spot of rust would ruin high-precision products.



5 h.p. "Packaged" Air Conditioner

★ CHRYSLER AIRTEMP AT WAR ★



From tiny, fractional horsepower to big 75 horsepower units, Chrysler Airtemp Radial Compressors are performing a major war job on both the production and battle fronts.

The science of air control is built around the compressor. Chrysler Airtemp's *exclusive* Variable Capacity Radial Compressor provides a new efficiency and accuracy in indoor climate regulation. The radial cylinders cut in or out automatically, one at a time, to meet varying load requirements. This flexibility eliminates the peaks and valleys resulting from abrupt starting and stopping of ordinary compressors . . . holds temperature and humidity at a constant level.

Years spent in building delicate mechanisms, have developed high-precision, versatile skills at Airtemp, now devoted to war production. Backed by Chrysler Corporation research and engineering, when peace comes, these skills will again create heating, cooling and refrigeration units for homes and commercial use that will set new, high standards of efficiency and performance.

The lessons learned during peace in free competitive enterprise—freedom of the individual to produce and compete—today bring strength to a nation at war.

War Products of Chrysler Corporation

Tanks • Tank Engines • Navy Anti-Aircraft Guns • Army Anti-Aircraft Guns • Bomber Fuselage Sections • Bomber Wings • Bomb Racks • Bomb Shackles • Fighter Landing Gears • Aluminum Alloy Forgings • Aluminum Alloy Castings • High-Powered Aircraft Engines • Cycleweld Cement • Wide Variety of Ammunition • Anti-Tank Vehicles • Command Reconnaissance Cars • Troop and Cargo Motor Transports • Ambulances • Weapons Carriers • Gyro-Compasses • Navy Pontoons • Marine Tractors • Harbor Tugs • Marine and Industrial Engines • Smoke Screen Generators • Air Raid Sirens and Fire Fighting Equipment • Powdered Metal Parts • Cantonment Furnaces • Tent Heaters • Refrigeration Compressors • Field Kitchens • and Other Important War Equipment

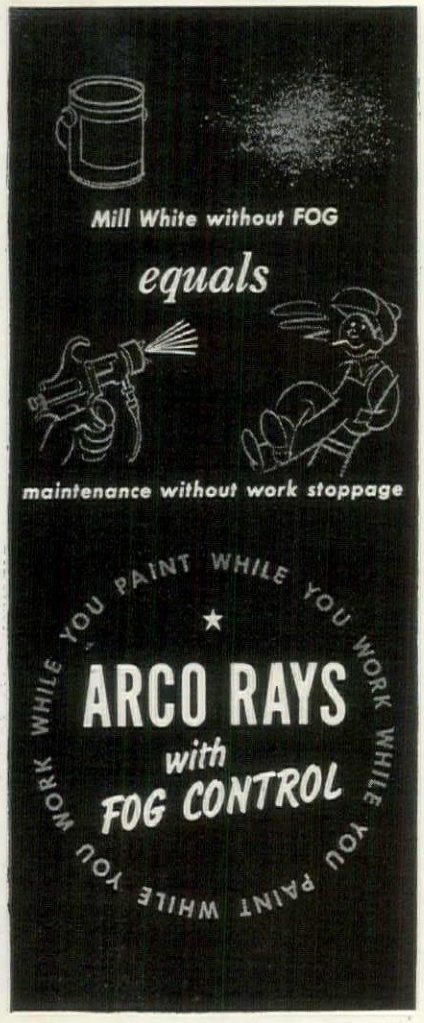
Tune in Major Bowes every Thursday, C B S, 9 P. M., E. W. T.

Chrysler Corporation

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BACK THE ATTACK—BUY WAR BONDS

SERVING BY CONSERVING... No. 11



WHILE you spray Arco Rays on your factory walls work goes on practically as usual. The exclusive Fog Control feature reduces "mist" and "splatter" to a minimum so that only areas immediately adjacent need be covered. And a broom or dry cloth is all the clean-up that's required!

Arco Rays is only one item in Arco's complete line of maintenance specialties, which includes floor treatments, metal protectives, concrete and masonry coatings—a long list of products renowned for the conservation role they've played in three generations of American industry. Write for full details.

THE ARCO COMPANY
CLEVELAND, OHIO • LOS ANGELES, CALIF.

ARCO
Paints for Industry

MONTH IN BUILDING

(Continued from page 104)

may mean quiet plants and empty houses for some now busy U. S. community. When new tanks, guns and planes meet the test of enemy defenses, shifts in war production follow with lightning speed, are reflected in war housing vacancies in some areas, increased need in others.

Last month the National Housing Agency said federally-built war housing is 90 per cent occupied. To anybody worried about the 10 per cent that stands vacant, the National Housing Administrator said:

"To criticize the war housing program because all of the completed units are not in use is just as unrealistic and unfair as it would be to criticize the Army and Navy when certain plants, planes and weapons are discarded in the light of changing experience and changing war needs."

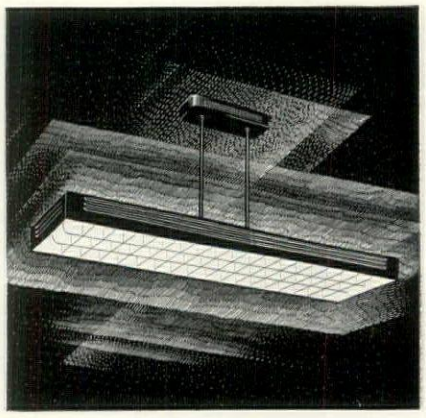
Privately financed war housing, programmed only where need is relatively permanent, is about 100 per cent occupied. Major part of the public program, family units show 96 per cent occupancy; dormitory units, only 68 per cent occupied, bring the over-all figure down.

Vacancy has been spectacular enough to excite war housing critics in only a few places. One of them is Kingsbury-Laporte, Ind., where ordnance plant employment shrunk from an expected 22,000 to 9,500 and 1,000 family dwellings and 1,000 dormitory rooms lacked tenants. But changing need had been foreseen and demountable construction used for all family units. Last month the Hemke Construction Co., Chicago, was busy moving 200 of the demountables to Port Clinton, Ohio (FORUM, *Nov. '43*). Cost of the transfer was estimated at about $1,200 per house. As anxious as the Federal Public Housing Authority to gauge the success of the moving job were the firms who supplied the demountable construction: General Fabricating Co., Attica, Ind.; Russman-Ligonier Corp., St. Louis; National Homes Inc., Lafayette, Ind.

If all goes well, 1,000 more demountables will be moved out of the Kingsbury-LaPorte site and plans will go forward for moving demountable housing out of other areas.

CONSUMERS GOODS CHECK

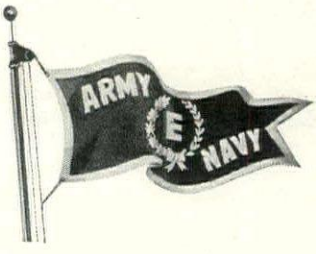
The Census Bureau is ringing 7,000 doorbells. WPB's Office of Civilian Requirements will get the answers. Purpose of the spot check: To find out how well washing machines, refrigerators, electric irons, etc. are holding out. Data will be used to guide materials allotment.



For lighting war plant
OFFICE or DRAFTING
THE
ADMIRAL
by WAKEFIELD
. . . a fluorescent unit
made from WOOD!

Made largely from wood, the ADMIRAL conserves war materials and meets WPB limitations on weight of metal. At the same time, *it provides efficient, high intensity, diffused light* to help handle wartime paper work faster, with less eyestrain.

Puts 90% of the light down on desktops or boards and allows the rest to go upward to avoid ceiling contrasts. It is a natural for fluorescent lighting in offices or drafting rooms essential to war production. Especially effective for work that involves critical seeing or relighting older office space which has poor ceilings. Walnut finish. Comes in 2, 3 and 4-lamp units. See our catalog in Sweet's.



For 194X you can count on lighting fixtures by Wakefield . . . confident that they will incorporate all the latest developments of lighting research and engineering.

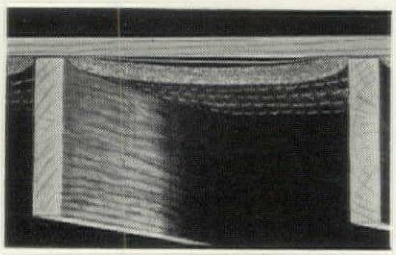
THE F. W. WAKEFIELD BRASS CO.
VERMILION, OHIO

In Prefabricated Construction GIANT SIZE KIMSUL* Covers More Area in Less Time



Saves time and money

Picture above shows how KIMSUL blanket covers prefabricated ceiling panel in one operation. Floor panels are insulated similarly; flooring is nailed right over the insulation.



Installed KIMSUL looks like this

Note how the KIMSUL blanket *compresses* between joists and flooring. Secondly, observe the way it *expands* between the joists. Once installed, KIMSUL can't sag, shift, sift, or pack down. This means maximum insulating efficiency.

Here's how GIANT SIZE KIMSUL* saves time in prefabricated construction: Two men roll out a KIMSUL blanket, stretch it taut over the framing members, and then nail the flooring, sheathing, or wall paneling right over the insulation. GIANT SIZE KIMSUL comes 4' wide, and wider in some specifications, by 250' long. Because it covers a pre-fab panel in one operation, it installs quickly and easily and much less handling is required.

Different from other Insulation

Many leading architects, engineers, and builders judge KIMSUL one of the most efficient insulators ever developed. Here are the reasons: KIMSUL has a thermal conductivity of .27 Btu/hr./sq. ft./deg. F./in. It is the *only* insulation that is delivered *compressed* to 1/5th its installed length. This means *additional* savings because there's *only* 1/5th as much transportation, *only* 1/5th as much storage, *only* 1/5th as much handling. Furthermore, KIMSUL is treated to resist fire, moisture, mold, and it's free from dirt and abrasive material.

Send for free booklet, "KIMSUL, for Modern Protection Against Heat and Cold." Packed with important insulation *facts* and profusely illustrated.

KIMSUL IS A KIMBERLY-CLARK PRODUCT

KIMSUL INSULATION

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

*KIMSUL (trade-mark) means Kimberly-Clark Insulation

KIMBERLY-CLARK CORPORATION, Est. 1872 AF-1243
Building Insulation Division, Neenah, Wisconsin

☐ Please have a KIMSUL Representative call.

☐ Send free copy of illustrated book, "KIMSUL, for Modern Protection Against Heat and Cold."



*Name*_____

*Street*_____

*City*_____ *State*_____



. . . . with ANDERSEN

COMPLETE WOOD WINDOW UNITS

Window Walls—oriented to bring the beauty of the outdoors to the comfort of the indoors . . . Window Walls—oriented to frame a living picture. Yes, window walls of Andersen Complete Window Units, arranged in expansive groups, will play a prominent part in the design of the 194X home.

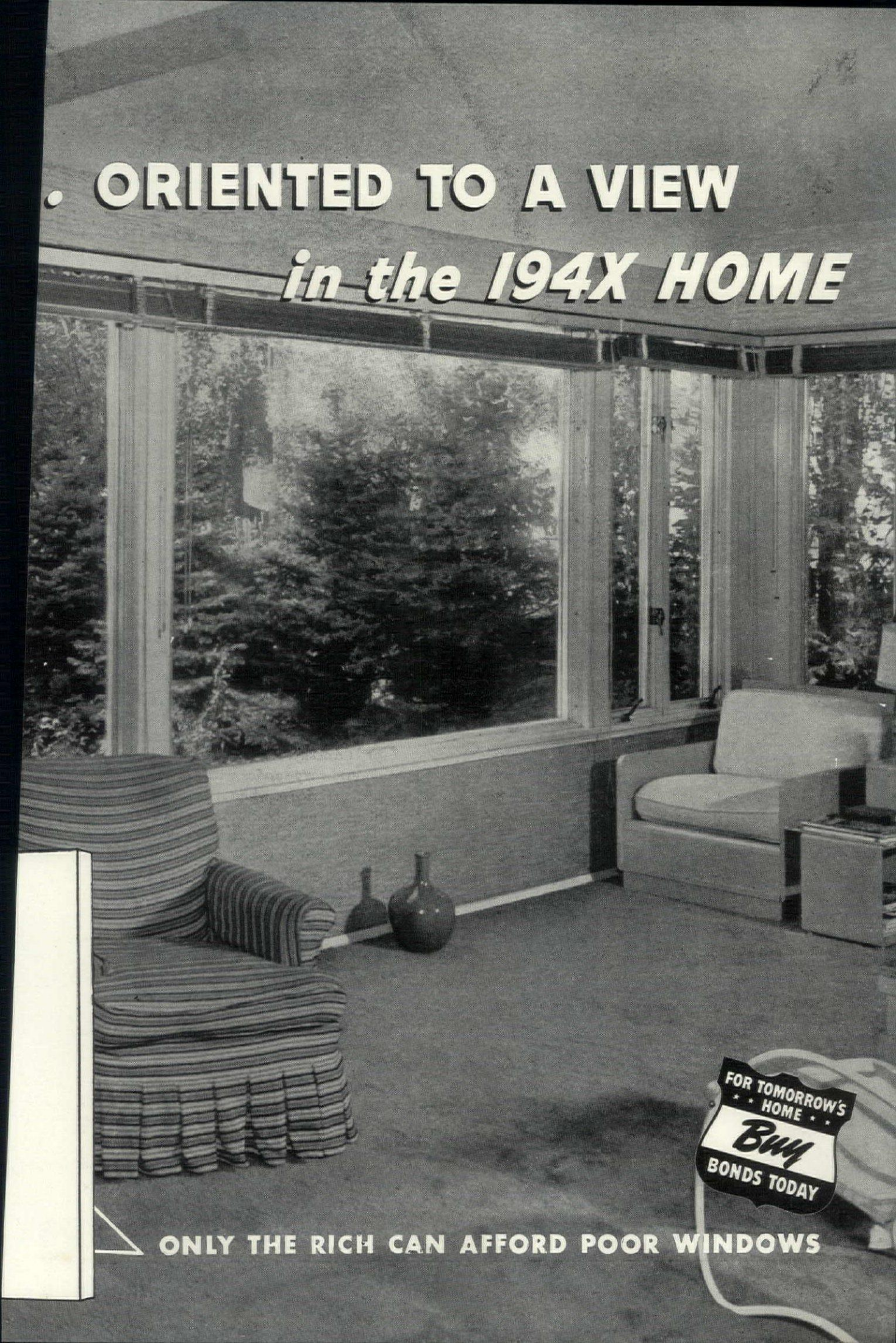
To undertake successfully this larger role, it will be more essential than ever before that windows be specified which will truly function as integral parts of the home . . . smoothly operating, thoroughly weathertight, built to provide a lifetime of trouble-free service. This will require windows highly adaptable to many situations.

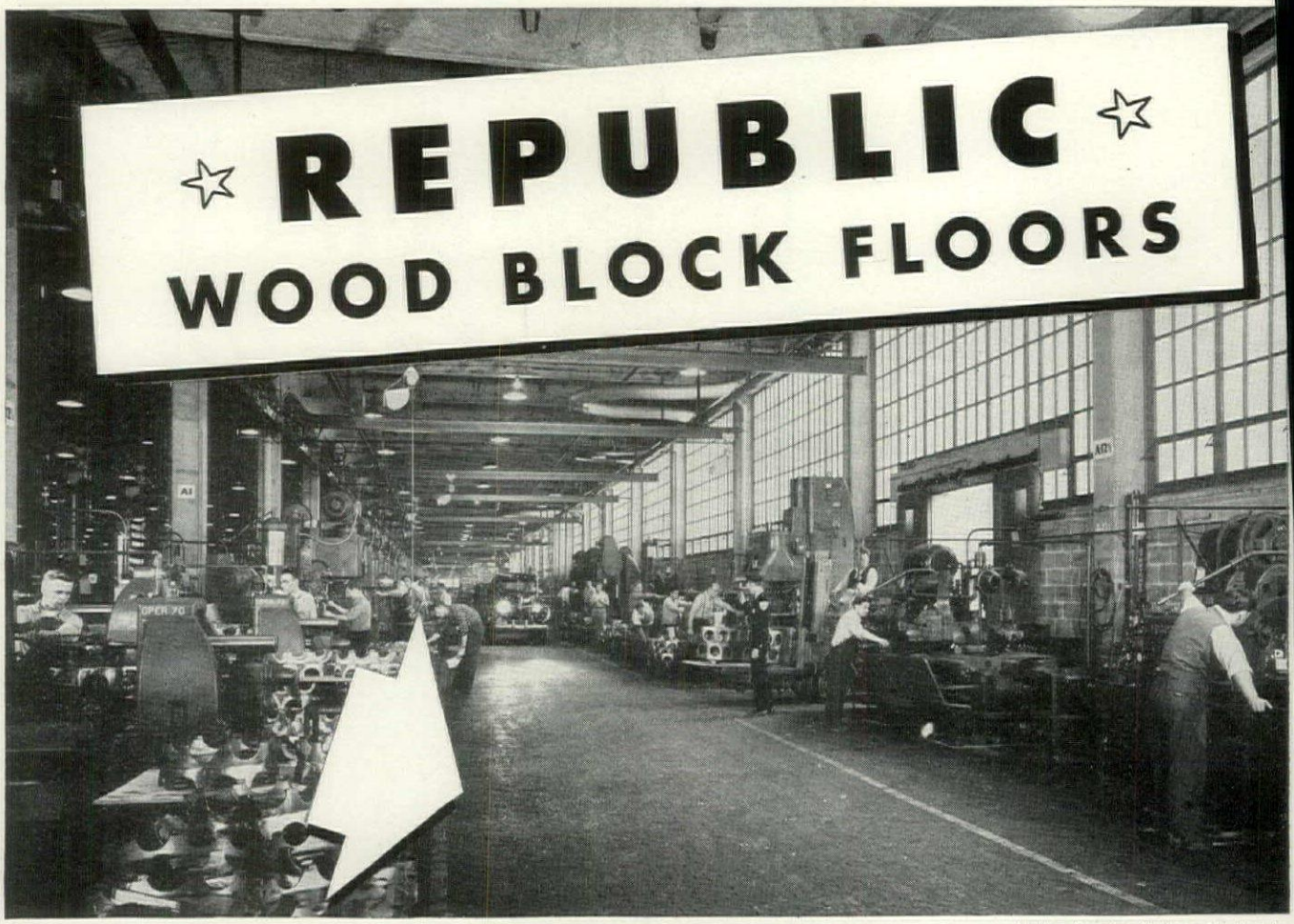
Andersen is aware of this larger scope for windows, and promises that as progressive architects give new functions to windows, Andersen window engineering will rise to the occasion.

In 194X, as in the past, Andersen Complete Wood Windows will be distributed through the regularly established channels of the millwork industry. For details, consult Sweet's architectural catalog, or write directly to the Andersen Corporation.

Andersen Corporation

BAYPORT • MINNESOTA


. ORIENTED TO A VIEW
in the 194X HOME
FOR TOMORROW'S HOME
Buy
BONDS TODAY
ONLY THE RICH CAN AFFORD POOR WINDOWS



Hedrich-Blessing Studio — Albert Kahn Associated Architects and Engineers, Inc.

THE FIRST WOOD BLOCK FLOOR EVER LAID— AND NOW THE LARGEST—ARE REPUBLIC FLOORS

THE *first* creosoted wood block floor ever laid was a REPUBLIC floor. That was in 1903. And today, after 40 years of continuous heavy service with very little maintenance expense, this floor is giving the same service as when it was first installed.

The largest wood block floor ever laid is the one shown above—in the Dodge Chicago plant, division of Chrysler Corporation—another REPUBLIC floor. At the same time this huge floor was being installed, REPUBLIC was also installing wood block floors in the Victory Ordnance Plant, Cleveland Aircraft Assembly Plant, Jacobs Aircraft Engine Plant, Wright Aeronautical Corp. Plant, and several other large war plants, totaling over 11,000,000 sq. ft. of wood block flooring.

This performance record was possible because of the large capacity of REPUBLIC's lumber and treating plants, and REPUBLIC's long experience in the production of wood block flooring. These facilities and experience are at your service. Your inquiries will have prompt attention.

Republic CREOSOTED PRODUCTS

17 PLANTS
24 SALES OFFICES

REPUBLIC CREOSOTING COMPANY • ***General Offices: Indianapolis, Ind.***

Republic

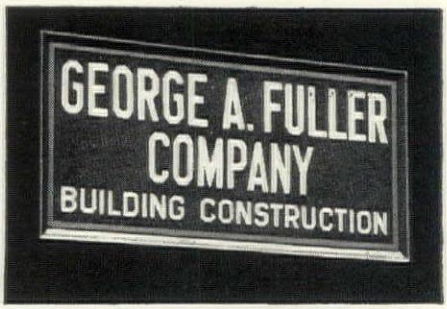
CREOSOTED WOOD BLOCKS, LUMBER, HEAVY BUILDING TIMBERS, TIES, POLES, PILING

★ PIONEERS IN WOOD PRESERVING ★

RESPONSIBILITY

...for building the great Dodge Chicago plant was given by the Defense Plant Corporation and the Chrysler Corporation to the George A. Fuller Company.

New York · Chicago · Washington · Boston



Philadelphia · San Francisco · Los Angeles

AEROFIN

Heat Exchange Surface

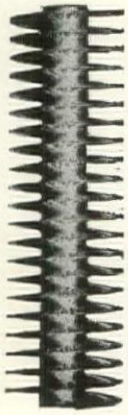


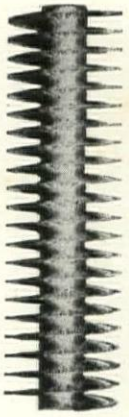






ALL STEEL COILS





Since CRITICAL MATERIALS are scarce, it becomes necessary to save them wherever possible. . . . AEROFIN has done more than this . . . an AEROFIN ALL STEEL COIL is being manufactured. . . . It has been proven and tested by the AEROFIN CORPORATION in its usual thorough way. . . . AEROFIN HEAT EXCHANGE SURFACE will always meet with the approval of all leading ENGINEERS and ARCHITECTS.

. . . Write today for full information . . .

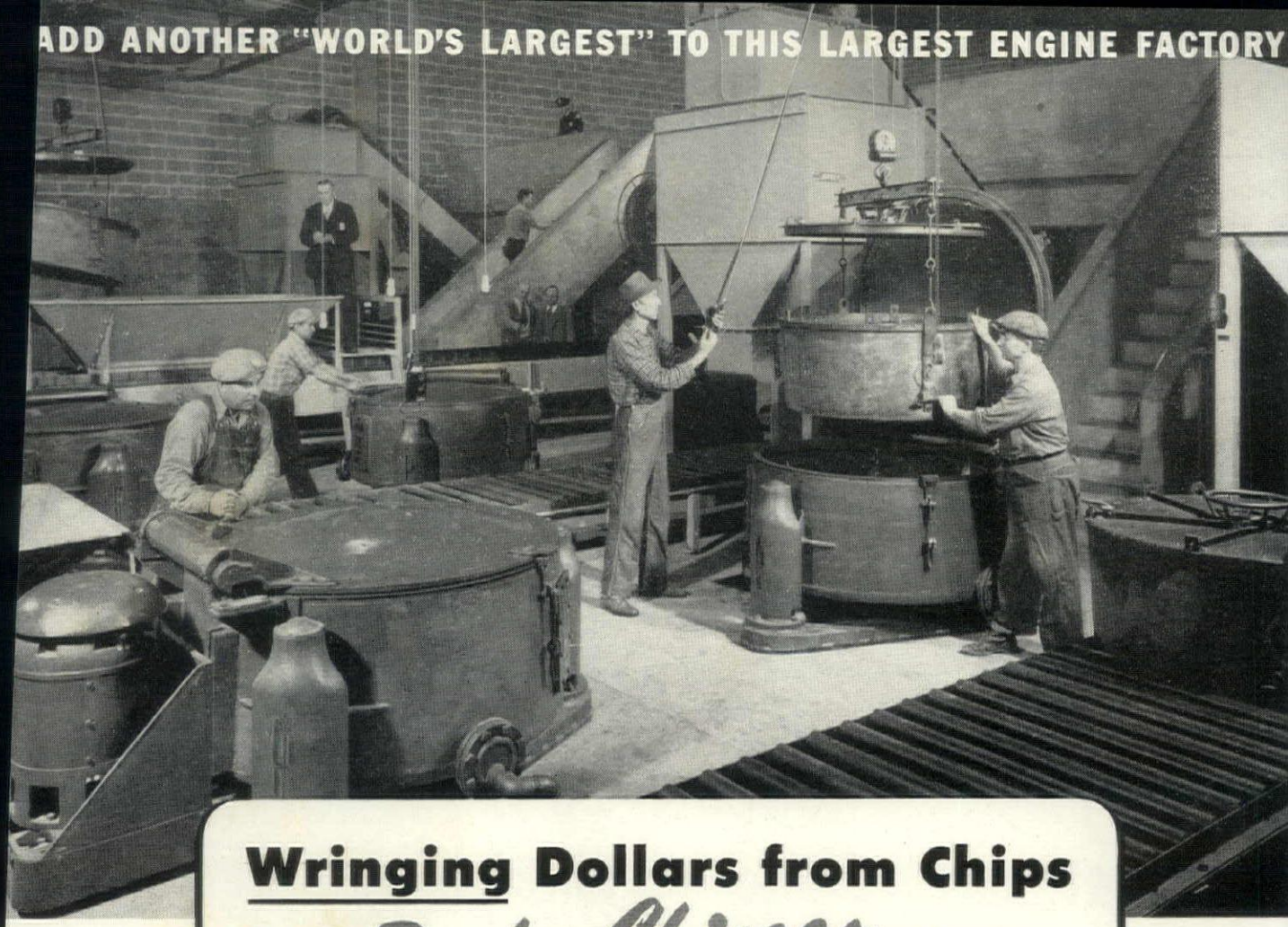
AEROFIN CORPORATION

410 S. GEDDES ST., SYRACUSE, N. Y.

Chicago Detroit New York Philadelphia

Dallas Cleveland Toronto

ADD ANOTHER "WORLD'S LARGEST" TO THIS LARGEST ENGINE FACTORY



Wringing Dollars from Chips at Dodge Chicago plant

FROM THE WORLD'S LARGEST line of machine tools, in the world's largest aircraft engine plant, come thousands of tons of chips and turnings. Dripping with machine cutting fluids, they are literally worth their weight in gold—in reclaimable oils and metals.

Chrysler Corporation's Dodge-Chicago plant has ordered for this job of recovery some Tolhurst Chip Wringers . . . a battery of six 48-inch diameter centrifugals to handle the chips from seven groups of ferrous and nine groups of non-ferrous turnings. In eight to fifteen minutes, depending upon the types of metals, these speedy machines actually *wring* the oil from the chips—obtaining up to 98 per cent recovery of the cutting coolants. These are quickly processed and returned to the machine tools for reuse, while the dry turnings are conveyed to bins or drums for remelting.

Whether your plant machines large or small parts, if you are using cutting oils, it will pay you to investigate the savings to be made from Tolhurst Chip Wringers. Recovery of valuable oil, reduced tool wear, higher prices for dry chips—these are down-to-earth economies which quickly enable these machines to pay for themselves and to speed production. Tolhurst builds Chip Wringers in various sizes and from one to multiple battery arrangements.

Descriptive bulletins, installation data and prices are available upon request.



TOLHURST CHIP WRINGERS

TOLHURST CENTRIFUGAL DIVISION • *American Machine and Metals, Inc., East Moline, Illinois*

"Since 1852—CENTRIFUGAL MAKERS FOR THE PROCESS INDUSTRIES"

PLANNING WITH YOU

(Continued from page 76)

them, but these men who represented many fields of occupation and interest were quick to realize the possibilities in a realistic planning program such as was proposed. It was their effort that interested city officials and citizens in the basic idea of planning.

The first attempt at a planning program usually results in the preparation of a zoning ordinance based on a land use plan for the city. After careful analysis by the commissions and citizens such ordinances were passed in Bristol, Va. in November 1942 and in Bristol, Tenn. in June, 1943. The two decrees are very similar though individual state enabling acts produced minor variations. To date wartime building restrictions have prevented any real test of effectiveness, but in several minor cases the new zoning regulations have proved their value to the city.



BRISTOL HAD PLENTY OF OPEN SPACE, LITTLE LAND RESERVED FOR PARKS

The next step in the planning program was the development of a plan for major streets. Here in particular it was essential that the plans for the two cities be worked out together so as to form an integrated pattern of the city as a whole. Existing traffic was analyzed from both a regional and a local standpoint. Bristol's main problem is the number of streets leading directly to the central section with only a few circumferential streets of any consequence. In addition, the main flow of through traffic runs directly through the heart of the business section. The great majority of the streets are extremely narrow, some in the older sections being only 28 ft. wide. The street plan finally adopted proposes a bypass route around the city to the northwest for through traffic and the creation of two loop streets located approximately a mile and two miles from the center of town. Though the war has deferred actual construction, surveys are now under way on the more important routes.

Studies were also made of the existing schools systems in both cities. These are, of course, completely separate. Most of the buildings were found to be modern and up to date, but bearing in mind population trends, future school sites were recommended for acquisition as soon as possible.

An analysis of existing parks and recreation areas showed that both cities were deficient in such facilities; together they had only nine acres of park and five acres of playground, excluding school sites. Postwar building on a considerable amount of vacant land in the center of the city will render the situation more acute. The planning commissions have therefore prepared for the acquisition of additional park and recreation areas. The City Council of Bristol, Va. has already acquired a 26 acre park site about three quarters of a mile from the central business district for postwar development. In addition, both city commissions have recommended the acquisition of additional

(Continued on page 116)



THE MANAGEMENT AND EMPLOYEES

OF THE

Burnham Boiler Corporation

Are United in Wishing You

A

MERRY CHRISTMAS

HAPPY NEW YEAR

AND

VICTORY IN 1944

Irvington, New York		Zanesville, Ohio
Baltimore 18, Md.	Elizabeth 4, N. Y.	Philadelphia 32, Pa.
Cambridge 39, Mass.	Geneva, N. Y.	Pittsburgh 21, Pa.
Chicago 24, Ill.	Lancaster, Pa.	Springfield 1, Mass.

Specialized Metals with Strength—PLUS Properties

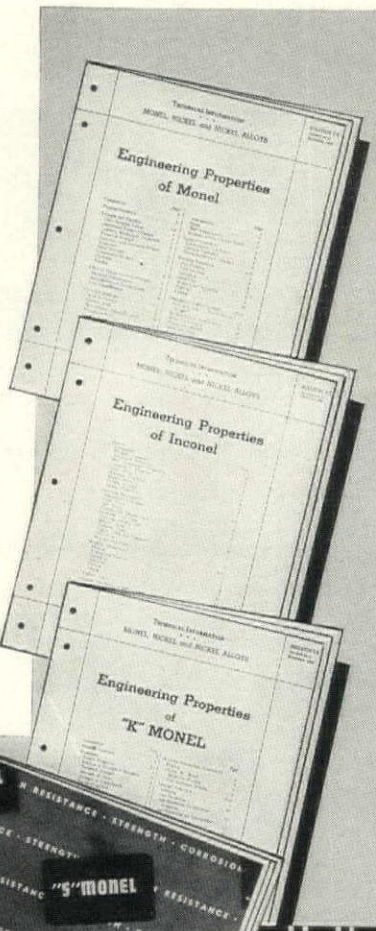
The 8 INCO Nickel Alloys, described in the bulletins below, have "what it takes" for tough jobs

When you know the conditions a metal *can* face, you know better *where* and *how* to use it.

That's why you'll find these bulletins valuable short-cuts in solving many problems that involve special conditions affecting metals... conditions that demand strength plus corrosion resistance, plus special qualities of hardness, high temperature resistance, toughness, resilience, and other special properties.

Copies of any or all the bulletins will be sent on request. A coupon is provided for your convenience. Write today.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street **New York, N. Y.**



T-5—ENGINEERING PROPERTIES OF MONEL—Handbook facts about Monel—its Physical Constants; Minimum Mechanical Properties in standard shapes and sizes; data on its resistance to corrosion.

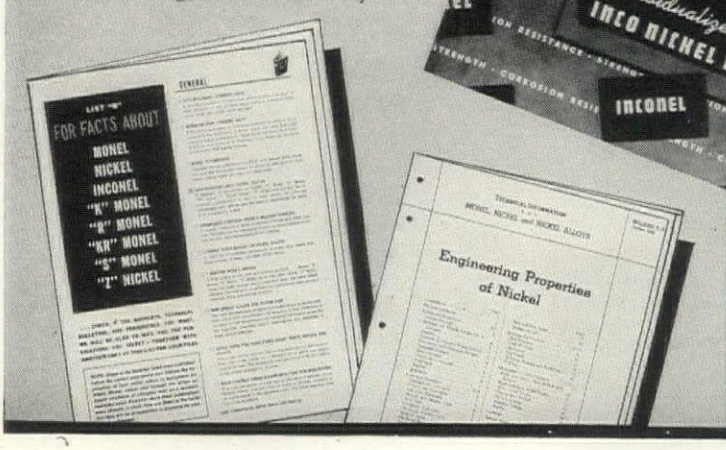
T-7—ENGINEERING PROPERTIES OF INCONEL—Engineering data and information on Inconel—a high-strength, corrosion-resisting and heat-resisting alloy of approximately 80% nickel and 15% chromium. Includes tables of Physical and Mechanical Properties, data on Resistance to Corrosion, comments on working.

T-9—ENGINEERING PROPERTIES OF "K" MONEL—An alloy that combines the strength of heat-treated alloy steels with the corrosion resistance of Monel. Describes mechanical properties, strength at elevated temperatures, etc. Gives instructions for heat treating and working. Discusses appropriate applications.

INDIVIDUALIZED INCO NICKEL ALLOYS—A summary of information on Monel, "R" Monel, "K" Monel, "KR" Monel, "S" Monel, Nickel, "Z" Nickel and Inconel; the individual characteristics of each metal, the particular advantages each affords, and the applications for which each is especially suited. Includes more than 30 photographs showing equipment problems solved with INCO Nickel Alloys.

T-15—ENGINEERING PROPERTIES OF NICKEL—Technical data on wrought and cast nickel, its Physical Constants, Mechanical Properties, Resistance to Corrosion. Includes working instructions and a supplement describing special low carbon "A" Nickel, "D" Nickel (heat resistant) and "Z" Nickel (high strength).

LIST B—Includes titles and brief descriptions of more than 100 bulletins and periodicals dealing with INCO Nickel Alloys.



The International Nickel Company, Inc.
67 Wall Street, New York, N. Y.

Gentlemen:

Please send me copies of your publications checked below:

- ☐ Individualized INCO Nickel Alloys
- ☐ T-5—Engineering Properties of Monel
- ☐ T-7—Engineering Properties of Inconel
- ☐ T-9—Engineering Properties of "K" Monel
- ☐ T-15—Engineering Properties of Nickel
- ☐ List B—List of INCO Nickel Alloy Bulletins Technical Bulletins and Periodicals

Name.....

Title.....

A.F. 12-43

Company.....

Address.....

PLANNING WITH YOU

(Continued from page 114)

land around school sites of small size to create a future standard of at least five acres of recreation area for each school. Other small areas have been selected for neighborhood playgrounds in various sections of the city.

The question of water supply and sewage disposal are of extreme importance in Bristol, as in all cities. A series of springs to the northeast which formerly supplied both cities have for some time been inadequate. Even the addition of a new water supply from the Holston River for Bristol, Tenn., leaving the entire old supply for Bristol, Va., was not sufficient.

The question of sewage disposal is perhaps even more serious. Beaver Creek, which flows through the city from the northeast to the southwest, is now the sole means of disposal. Furthermore, it has flooded the central business district at various times when rains were extremely heavy.

The Bristol, Va. planning commissions in their effort to solve these two problems enlisted the help of the Tennessee State Planning Commission, the Virginia State Planning Board and TVA. Work has begun on preparing the survey and recommendations which are expected to be complete in the very near future.

OTHER PLANNING STUDIES

Additional studies will eventually be made for the rehabilitation of certain residential areas and for the further development of the business section. All this material will be combined with the various individual plans already outlined to form the general master plan of the city of Bristol. As these plans are developed reports are written to accompany them and explain the proposals. The complete master plan will of course include the composite map of these proposals and the composite text.



ONE CAR, 2 GOVERNORS, 2 STATES

Over a period of almost two years the Bristol Planning Commissions have thus developed not only the organization for the preparation of the plan for the city, but a great deal of that plan itself. However, they do not underestimate the necessity of its being supported by the citizens of the city. They also know that the failure of many other plans has been due to the fact that they were not kept before the eyes of the public and the city officials. With these points in mind, the commission decided on an educational campaign to explain to the people of Bristol the meaning of planning and their objectives in this respect. The publicity which attended the adoption of the zoning ordinances had wakened many people to the existence of planning but it was definitely felt that a great majority of Bristol's population had little or no concept of what else was actually being done.

PLANNING WITH YOU

In August, THE FORUM came forth with its suggestion of selling planning to the general public. The members of the Bristol Planning Commissions were quick to see that this material could be used with their previously planned publicity campaign. A thousand copies of the booket, "Planning With You" were ordered for distribution at the civic club meetings and to representative citizens. It was felt that

(Continued on page 118)

JUST WHAT WILL *Calcium Chloride* DO FOR PORTLAND CEMENT?

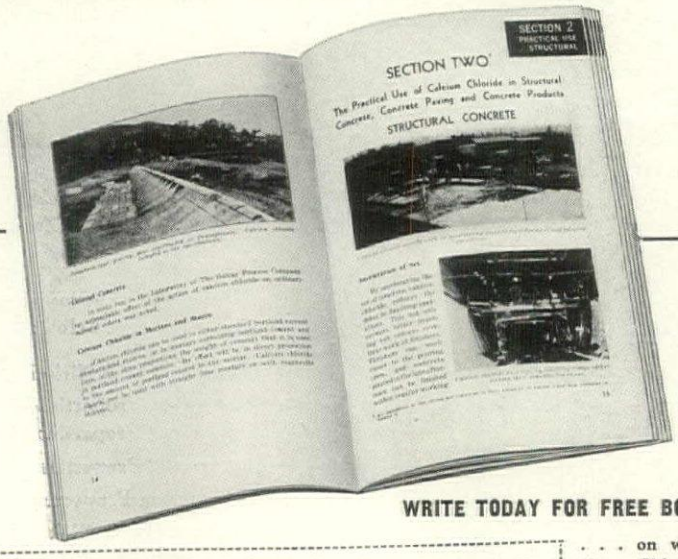
★ What can calcium chloride do for winter concrete?

★ How does it affect setting time? . . . strength? . . . early strength? . . . ultimate strength?

★ Why does it permit reduction in water-cement ratio? . . . its effect on density? . . . waterproofing?

★ What other practical advantages does calcium chloride offer in structural concrete? . . . paving concrete? . . . concrete products?

THIS 48 PAGE BOOKLET ANSWERS THESE IMPORTANT QUESTIONS!



WRITE TODAY FOR FREE BOOKLET!

. . . on what Calcium Chloride will do for Portland Cement Mixes, including Bureau of Standards, P.C.A. and other reports. Fill out the coupon to the left

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SOLVAY SALES CORPORATION, 40 Rector St., New York 6, N. Y. Please send me A.I.A. Bulletin No. 38 and free 48-page booklet "Calcium Chloride and Portland Cement."

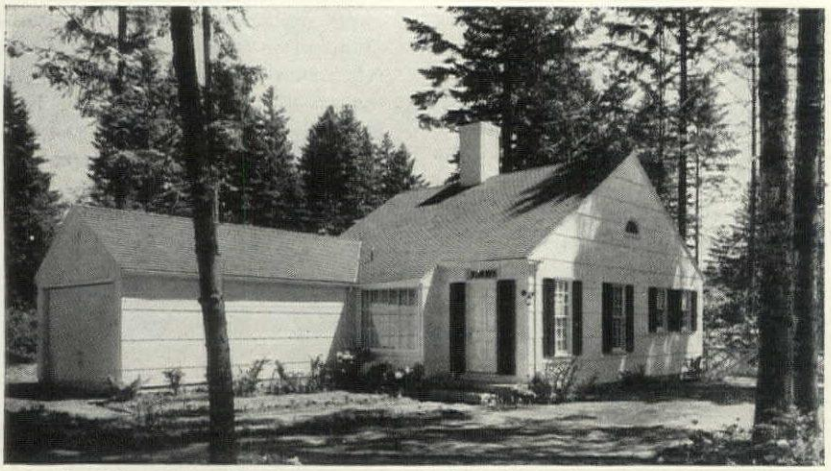
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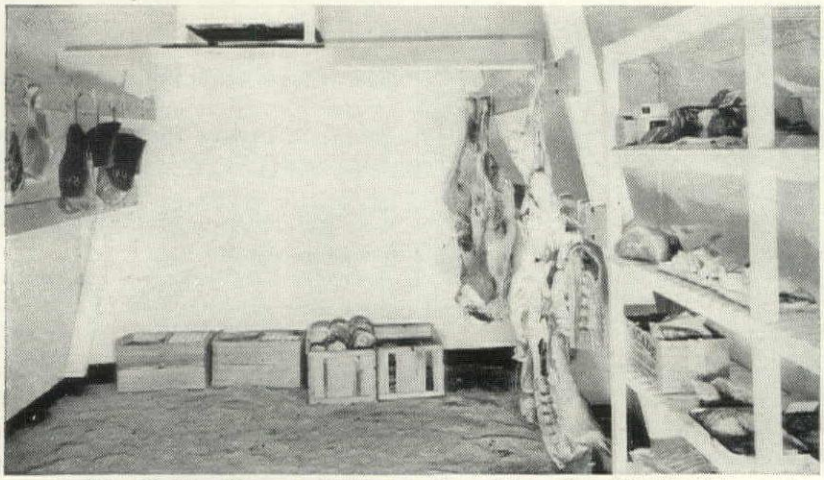
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What Architects should know about DUREZ resin-bonded plywoods



Small homes as well as large structures find ever increasing uses for plywood.



Meat Packing Houses or Dairies . . . plywood is preferred for interiors because it is unaffected by moisture, heat or cold.



Plywood is a time and money saver in construction work, concrete pouring, etc.

As with every structural material he specifies, the architect is vitally interested in the characteristics and developments in plywoods.

And today, no more satisfactory proving ground for modern plywoods can be found than war applications. Here, performance to rigid specifications is the only thing that counts.

Plywoods, bonded with Durez resins, are amazingly versatile. They resist salt water. They're boilproof. They resist mild alkalis and acids. In many uses, they are as strong—if not stronger, pound for pound, than metal. From the simplest sheet of Douglas Fir plywood for interiors to the most complex moldings for exterior use in aircraft . . . there's a Durez resin that fits the job.

Our resins, of course, are now available only for war applications. But the advantages they offer the architect in plywoods for postwar applications are worth knowing. Would you like to check on them? Send for our booklet, "Durez Industrial Resins," outlining their specifications in detail.



DUREZ PLASTICS & CHEMICALS, INC.
452 Walck Road North Tonawanda, N. Y.

DUREZ RESINS THAT FIT THE JOB

PLANNING WITH YOU

(Continued from page 116)

a short statement of the Bristol program should be written and enclosed in each pamphlet to explain how the general material in the booklet was being applied in Bristol. In addition, a full page advertisement suggested by THE FORUM was considered and it was decided to publish an ad based specifically on Bristol, utilizing some of the text material from THE FORUM's suggestion.

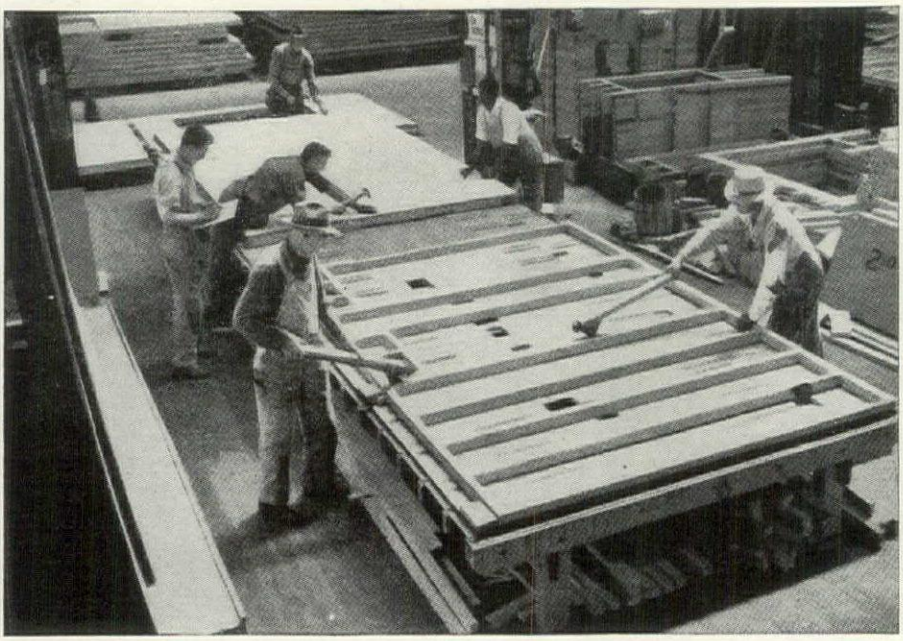
The campaign was concentrated in the week of October 3rd to 10th. A contour model of the master plan was completed and mounted in the main show window of the Tennessee Light & Power Co., which is located at one of the busiest corners in the city and where the majority of citizens might see it. The model was put on display on October 2nd and, the Sunday paper which appeared the next morning, contained the full page ad announcing the campaign and the first of a series of articles on the planning commissions. Speeches before the civic clubs began on the following Tuesday, with one speech every day for the balance of the week. At these meetings a member of the technical staff spoke briefly on planning in general, followed each time by a different member of the planning commissions who discussed the Bristol Plan. At the conclusion of the meeting the pamphlets were distributed. Interest was encouragingly high due in part to the variety of approach taken by the different speakers. Each day in reporting these meetings, the local paper featured a different phase of the planning program utilizing the speaker's remarks and general material on the specific subject prepared by the technical staff. Thus, by reading the news articles on the meetings the reader also received a pretty complete coverage of the program of the planning commissions. Also, during the week, a sketch of the plan for a park area purchased by the Bristol, Va. City Council, at the suggestion of the planning commission, was featured on the front page of the paper and the Sunday issue carried the reproduction of a map illustrating the major street plan. The local radio station, WOPI, an NBC affiliate, became interested in the campaign and offered four weekly quarter hour spots at 7:30 on Saturday evening. The programs consisted of brief statements from various planning commissioners as well as question and answer sessions based on questions submitted by listeners on various phases of the general program.

The total cost of the entire campaign was surprisingly low. The model around which the campaign centered, cost $250, but being part of the general program, is not included in the following statement:

Full page newspaper advertisement	$100.00
1,100 Copies "Planning With You"	55.00
Photographs	5.00
1,000 Copies of pamphlet, "What Will Bristol Be Tomorrow"	26.50
	$186.50
From Chamber of Commerce	25.00
	$161.50
Cost to each city	$ 80.75

This cost was met by the planning commissions out of their appropriations rather than by contributions from business and industrial firms.

It was of course impossible to determine how many people saw the model or heard the program given by the planning commissions and the civic clubs. It can, however, be assumed that probably more than half the population of the city was reached by one of these approaches. Further meetings were scheduled in the weeks following for other organizations such as parent-teachers groups and labor organizations. Certainly, the majority of the well informed citizens of the town now know of the planning commissions and have a general idea of what they are trying to accomplish.



WAR and POST-WAR HOUSING
CALL FOR WOOD and LAUCKS GLUE

WAR-LEARNED LESSONS will shape housing of the future.

Laucks Glues make possible the most modern techniques of stress-cover construction – wallboard glued to framing members – a "miracle" factor in the erection of war housing "cities." Post-war housing too, will call for the speed, strength and durability of the best war-born projects.

Laucks Glues and Laucks Glue techniques can solve tomorrow's problems as they have licked the "toughies" of wartime construction. I. F. Laucks, Inc., world's largest manufacturer of water-resistant and water-proof glues, can help *you*. For complete information, write or wire:

I. F. LAUCKS, Inc.
Lauxite Resins – Lauxein Glues
CHICAGO, 2 — 6 North Michigan Avenue
LOS ANGELES, 1 — 859 E. 60th Street
SEATTLE, 4 — 911 Western Avenue

Factories:
Seattle, Los Angeles, Portsmouth, Va., Lockport, N. Y.
In Canada:
I. F. LAUCKS, Ltd., Granville Island, Vancouver, B. C.
HERCULES-LAUX-MERRITT, Ltd., Stanbridge, Quebec

LAUCKS CONSTRUCTION GLUES
Consult LAUCKS—America's Glue Headquarters





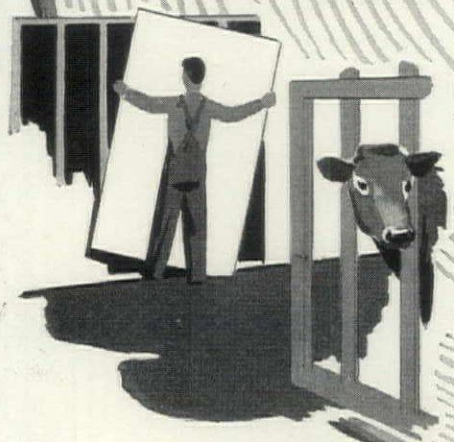


TODAY in the far northwoods, crops of trees—those not adaptable for lumber—are being harvested for many vital purposes. Many of these trees are transformed into an insulating board that fulfills a multitude of services, in many parts of the world.

The many lives of a NORTHWOODS TREE

• Insulite is extensively used in construction of homes for defense workers. The large Insulite boards are easily and quickly applied. Covering large areas, Insulite saves precious man hours. And because it insulates, Insulite saves fuel in winter, and makes rooms cooler in summer.

• Insulite is widely used on farms. Insulite used to line dairy barns is an aid to ventilation . . . it helps to keep cows healthier, lowers feeding costs. Hen houses and hog houses and other farm structures all can be built better with Insulite, for Insulite provides in one material wind-proofed, weather-proofed and moisture-proofed walls.





• Fabricated into Insulite Structural Insulating Board these trees have a wider usefulness than wood itself. Logs are placed into giant machines that tear them to pieces, reducing them to the wood fibres. From these fibres—the sturdy sinews of the tree—are processed the boards called INSULITE.

• Insulite gives two services—it builds stronger, and insulates as it builds. Insulite has a bracing strength four times that of ordinary wood sheathing, horizontally applied. As in 1918, Insulite has been used in the construction of many buildings for our armed forces throughout the country.



INSULITE
Division of Minnesota and Ontario Paper Company, Minneapolis, Minnesota

INSULITE
Structural Insulation

LOOK FOR INSULITE IN THE RED PACKAGE

THE ORIGINAL WOOD FIBRE STRUCTURAL INSULATING BOARD

MEMO FOR POST WAR PLANNING

Household operating and upkeep expenses come out of the same pocketbook as mortgage amortization payments. High-quality equipment, as supplied by General Electric, usually reduces monthly operating bills more than it increases monthly payments on the house . . . so actually it costs less to live better.

Remember, General Electric high-quality equipment will best serve the interests of your after-Victory clients or customers.

GENERAL ELECTRIC

Home Bureau Bridgeport, Conn.



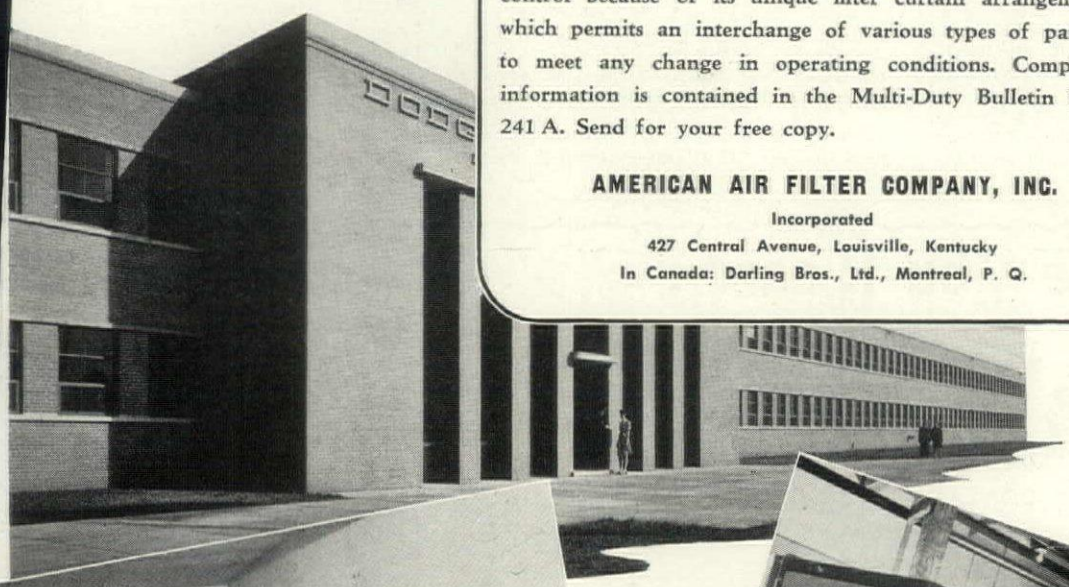
CLEAN AIR
a vital necessity in the new Aircraft plant!

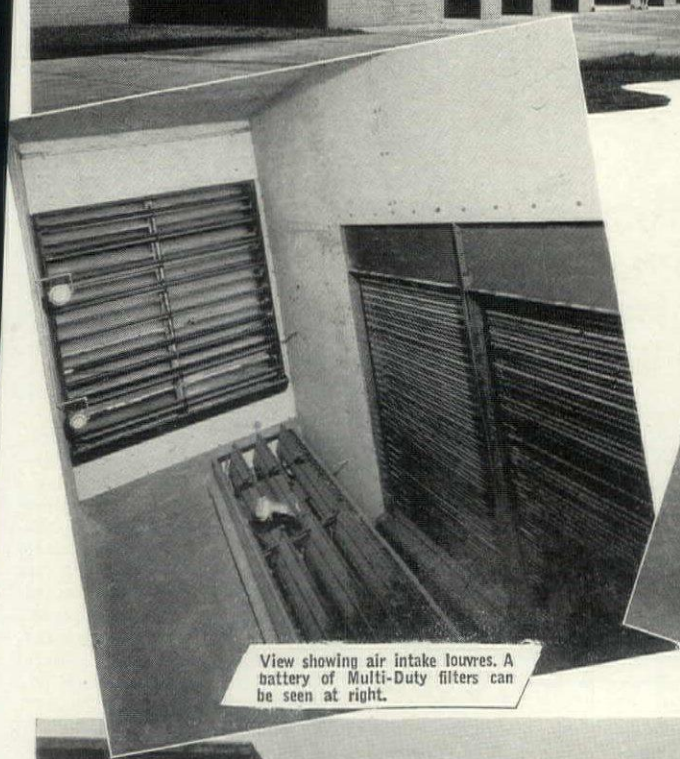
American Multi-Duty Automatic filters clean the intake air for ventilating Chrysler's new Dodge Chicago plant. The Multi-Duty is especially suitable for atmospheric dust control because of its unique filter curtain arrangement which permits an interchange of various types of panels to meet any change in operating conditions. Complete information is contained in the Multi-Duty Bulletin No. 241 A. Send for your free copy.



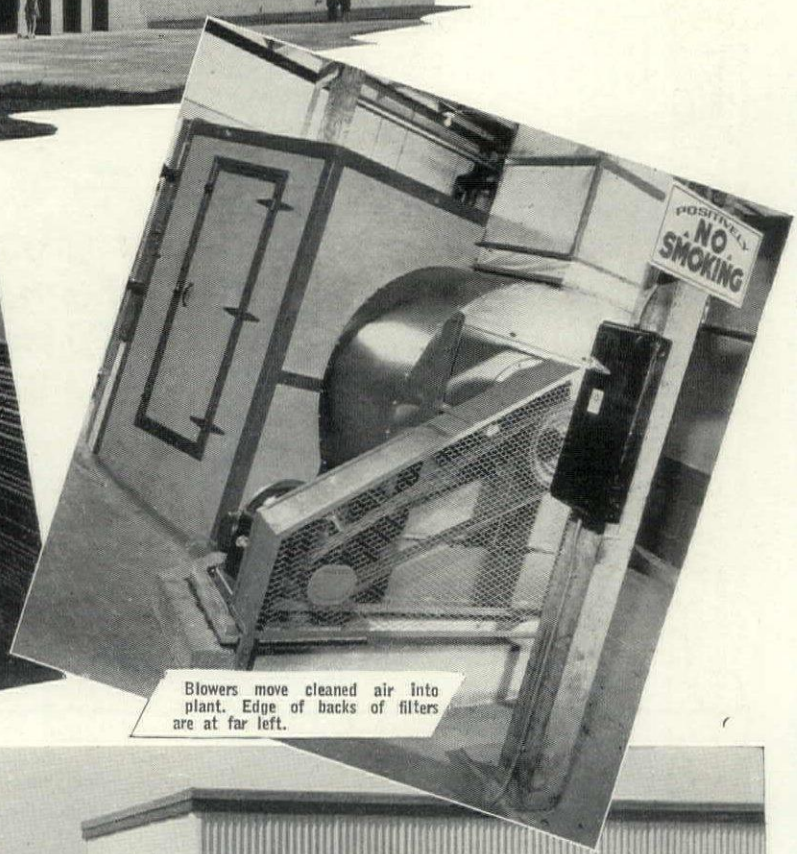
AMERICAN AIR FILTER COMPANY, INC.
Incorporated
427 Central Avenue, Louisville, Kentucky
In Canada: Darling Bros., Ltd., Montreal, P. Q.

AAF

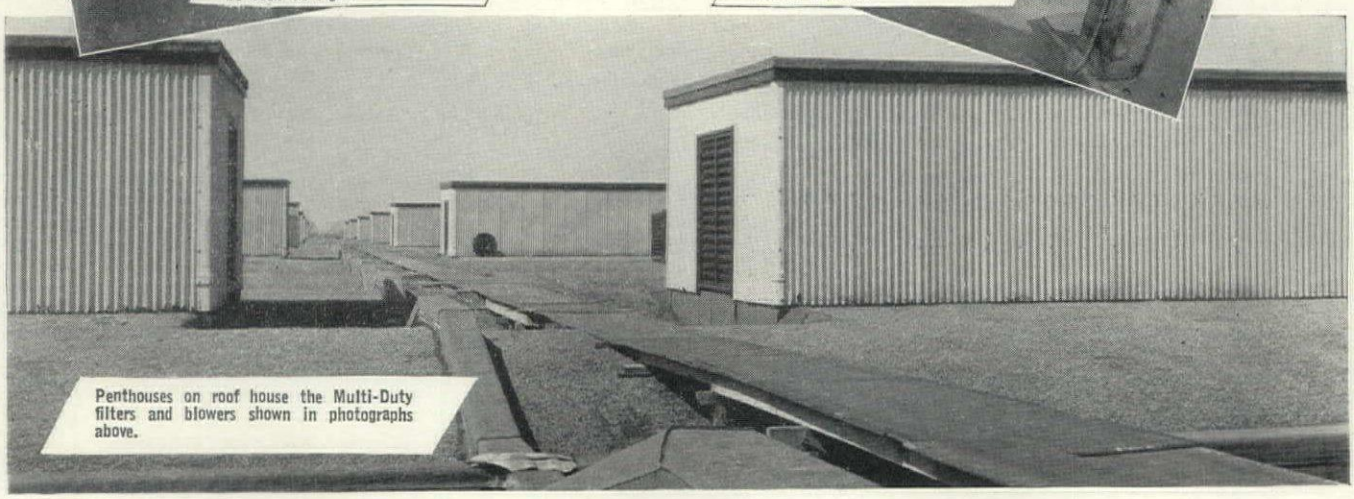




View showing air intake louvres. A battery of Multi-Duty filters can be seen at right.



Blowers move cleaned air into plant. Edge of backs of filters are at far left.



Penthouses on roof house the Multi-Duty filters and blowers shown in photographs above.

DODGE CHICAGO PLANT

(Continued from page 58)

CONSTRUCTION OUTLINE

FOUNDATIONS: Concrete, Portland Cement Co. Waterproofing—Ironite, Western Waterproofing Co., Santorized Hydrocide integral paste, L. Sonneborn Sons, Inc.

STRUCTURE: Exterior walls—face brick, common brick back up, Waylite block with some asbestos cement siding walls by The Ruberoid Co. and Keasbey & Mattison Co. Interior partitions—E. F. Hauserman and Mills Co., also Waylite block and movable wood and glass partitions; glass by Pittsburgh Plate Glass Co. Structural steel—Carnegie Illinois Steel Corp., Bethlehem Steel Co. and Inland Steel Co. Floors—concrete, Lapidolith Liquid hardening and dustproofing, L. Sonneborn Sons, Inc.; concrete wood block finish, Republic Cresoting Co.; factory finished oak, Bradley Lumber Co.; asphalt tile, Tile-Tex Co. and brick, Standard Clay Products Co. Curing—Pentrocure, L. Sonneborn Sons, Inc.

ROOF: Thin concrete arch ribbed 38 ft. spans, reinforcing, covered with composition roofing, The Barrett Co. and The Ruberoid Co.

METAL WORK: H. H. Robertson Co., Keasbey & Mattison Co., Masonite Co. and U. S. Gypsum Co.

INSULATION: Owens-Corning Fiberglas Corp. and Industrial Sound Control.

WINDOWS: Sash—wood, Hartman Sanders Lumber Co. Glass—Pittsburgh Plate Glass Co. and Libbey-Owens-Ford Glass Co. Screens—Koolshade, Ingersoll Steel & Disc Div., Borg-Warner Corp.

STAIRS AND ELEVATORS: Stairs and ramps — reinforced concrete, Portland Cement Co. Elevators—Otis Elevator Co. one hydraulic freight by Rotary Lift Co.

DOORS: Rowe Mfg. Co., Kinnear Mfg. Co., Wood-Parts, Inc. and Richmond Fireproof Door Co., and Peelle Co.

HARDWARE: P. & F. Corbin Co., Sargent & Co., Yale & Towne Mfg. Co.

PAINTS: Detroit Graphite Co., The Truscon Laboratories, L. Sonneborn Sons, Inc., Acme Paint & Color Works, Cook Paint Co. and Valentine & Co.

ELECTRICAL INSTALLATION: Switchboards, etc.—General Electric Co. Outdoor switchgear — Delta Star Electric Co. Power recover equipment—Westinghouse Electric & Mfg. Co. and General Electric Co. Cables—Anaconda Wire & Cable Co. and General Cable Corp. Busway—Trumbull Electric & Mfg. Co. Distribution transformers—Allis-Chalmers Mfg. Co.

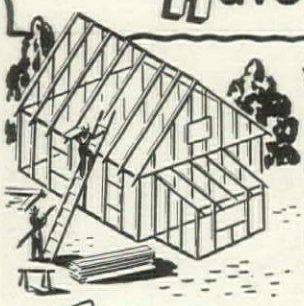
KITCHEN EQUIPMENT: Albert Pick Co., Inc., fan rooms are equipped with Dorex equipment for removing odors from the air when it is recirculated from the cafeteria—Dorex Div., W. B. Connor Engineering Corp.

PLUMBING: Fixtures—Eljer Co., Bradley Washfountain Co., Halsey-Taylor Co., American Radiator-Standard Sanitary Corp., Crane Co. Soil pipes—Alabama Pipe Co. Branch pipes—Sommerville Iron Works. Vent pipes—Johns-Manville Corp. Hot and cold water pipes—Republic Steel Co., Youngstown Sheet & Tube Co., Jones & Laughlin Steel Co. Underground sewers and drain tile—Builders Material & Fuel Co., Lock Joint Pipe Co., Wm. E. Dee Co. Underground fire, domestic and gas mains—James B. Clow & Sons, Alabama Pipe Co., American Cast Iron Pipe Co. Conduit—Ric-Wil Co.

HEATING AND AIR CONDITIONING: Heating—various systems were used depending on the type of building and its use. Each building has a separate recirculating hot water system. Building No. 4 has four separate systems due to the size of the building and desire to sectionalize. Air conditioning was installed only in the Assembly area and is the direct expansion type, 75 ton compressor and evaporative condensers located in same fan room. There are 81 units of nine each in nine fan houses on roof, Airtemp Div., Chrysler Corp. Refrigerant —Freon, Kinetic Chemicals, Inc. Stokers —Detroit Stoker Co. and Babcock & Wilcox. Draft fans—Clarage Fan Co. and American Blower Co. Pumps—Dayton Dowd Co., Allis-Chalmers Mfg. Co. and Yeoman Bros. Grilles—Tuttle & Bailey, Inc. and U. S. Register Co. Boilers—Babcock & Wilcox. Compressors—Ingersoll-Rand Co. and Worthington Pump & Machinery Co. Water heaters and controls —Patterson-Kelley Co., Inc. Unit heaters, directional, vertical and horizontal, are used for space heaters recirculating inside air to blanket doors, track areas and for general space heating, Carrier Corp. Valves—Josam Mfg. Co., Sloan Valve Co., Walworth Co. Air ducts—Philip Carey Co. Coils—Aerofin Corp. Air filters—American Air Filter Co., Inc.

SPECIAL EQUIPMENT: Oil and chip recovery system—American Machine & Metals, Inc. Fire extinguishing equipment—Cardox Corp. Scales—Toledo Scale Co. Trucks—Yale & Towne Mfg. Co.

Have You Heard?



IN 1925, ALL-TIME PEAK YEAR IN BUILDING, LESS THAN 900,000 DWELLING UNITS WERE BUILT. AUTHORITIES PREDICT CONSTRUCTION OF AT LEAST 1,000,000 UNITS ANNUALLY FOR TEN YEARS AFTER WAR.

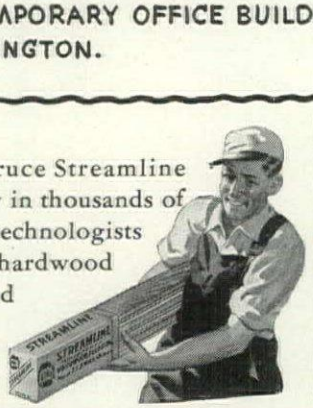
"THREE CENTURIES HE GROWS, AND THREE HE STAYS SUPREME IN STATE; AND IN THREE MORE DECAYS." THE POET DRYDEN THUS PRAISED THE LONGEVITY OF THE OAK TREE.





IN WASHINGTON, D.C. OVER 15,000 NEW DWELLING UNITS HAVE BRUCE STREAMLINE FLOORS. 2½ MILLION FEET OF STREAMLINE WERE LAID IN THE TEMPORARY OFFICE BUILDINGS IN WASHINGTON.

AND AFTER THE WAR... Bruce Streamline Flooring will be back, for you to lay in thousands of new and remodeled homes! Bruce wood technologists and chemists are working now on better hardwood flooring for the future. You may be assured that the outstanding floors of tomorrow —as those of today—will be products of E. L. Bruce Co.!



BRUCE

Factory-Finished

STREAMLINE HARDWOOD FLOORING

Trade-Mark Reg. U. S. Pat. Off.

A PRODUCT OF E. L. BRUCE CO., MEMPHIS, TENN.



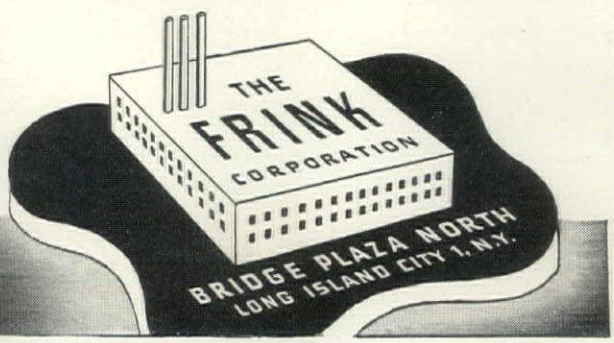
Their *FRINK-SHEATHED* *SUPERCHARGERS* are the answer, Fritz!

Newest fighter planes of the U. S. Army Air Forces are equipped with turbo-superchargers that enable them to outclimb Axis planes in combat. Attacking their adversaries from above, our pilots have the advantage that often means the difference between victory and defeat.

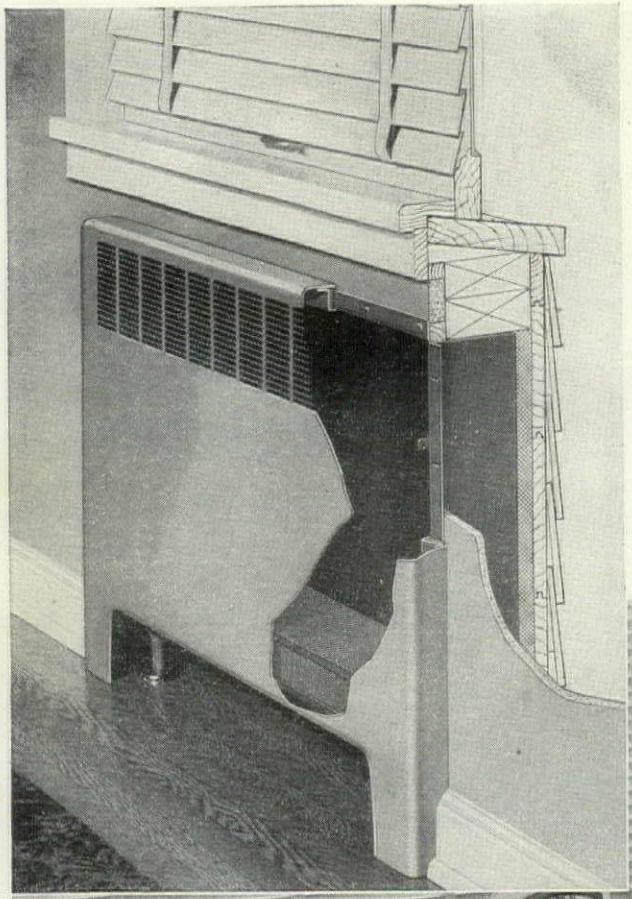
A vital part for these all-important superchargers is made by The Frink Corporation. The name Frink, though a relatively new name in the aircraft field, is an old and familiar one in the lighting industry. For 86 years Frink has meant expert engineering of lighting installations and precision manufacturing of lighting equipment. A pioneer in Fluorescent illumination, The Frink Corporation developed LINOLITE, the famous "engineered for vision" Fluorescent equipment, installations of which are giving such efficient and profitable service in many of America's foremost factories, stores and banks.

Today Frink, together with other leading manufacturers, is heavily engaged in making implements of war. Tomorrow Frink will resume the high quality engineering and manufacturing of lighting equipment which have gained an enviable reputation for its products in the lighting industry.

"LIGHTING SINCE 1857"



Subsidiaries: Sterling Bronze Company, Inc.
Barkon-Frink Tube Lighting Corporation

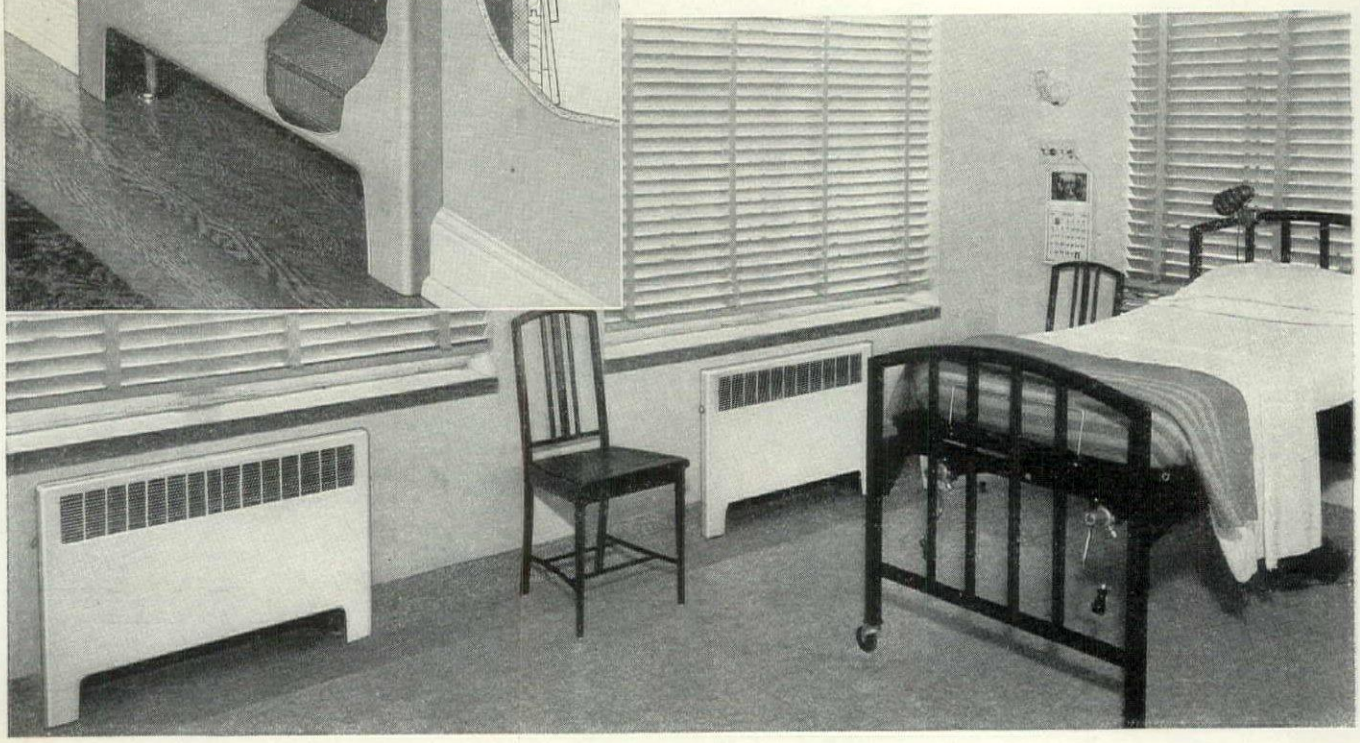


FOR: Hospitals, Schools and all Public Buildings

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modine *Convectors*

IN YOUR PLANNING



You can incorporate the comfort, convenience and economy of Modine convector heating in the post-war buildings you are planning *now*. No need to postpone specifications.

The line of convectors Modine will manufacture immediately after the war is cataloged *today* . . . ready to be worked into your plans.

NEED IDEAS?

Write for New Catalog SA-44 describing Modine Copper Convectors for Postwar Buildings.



ARMY E NAVY

MODINE MANUFACTURING COMPANY
1736 RACINE STREET, RACINE, WISCONSIN

Look in your phone book for Modine representative's name—"Where to Buy It" section.

WAR PLANTS CAN GET MODINE UNIT HEATERS RIGHT NOW



No more "guess-timating"

Far-sighted architects have found a system of construction that eliminates "guess-timating"—and yet allows full freedom of design without costly waste in construction.

For with Homasote Precision-Built Construction—the modern system of engineered housing—an architect can design machine-perfect homes, tailored to suit any need or taste, with the minimum of construction risk.

But that's not all. There's no more "guess-timating" in sales either. Homasote is developing *now* vast, eager markets for Precision-Built Homes through exhibits of quarter-scale models in key department stores. 70% of the prospective home-owners visiting these exhibits have expressed their desire to own a permanent, post-war home. By the thousands, they are placing their names on Homasote's preferred list and joining Homasote's Own-Your-Own Home Club.

This demand has been created by a system of construction that has been developed through intensive research and then proved in actual world-wide performance.

Engineered housing

For seven years and at a research outlay to date of more than $300,000, Homasote Company has been applying sound engineering principles to the problem of building a home. Homasote's purpose: to help the architect who specifies Homasote Building and Insulating Board sell more and better houses, with *assured* profits.

Result of this thorough study is Homasote Precision-Built Construction—a system which:

(1) enables the architect to incorporate all the engineering economies of prefabrication into the homes he designs;

(2) insures the architect's reputation against identification with jerry-building;

(3) is based on the use of Homasote Board—oldest and strongest building and insulating board on the market—and other standard materials readily available in the local area;

(4) saves the architect's detailing time—thereby increasing his productivity—by providing complete charts and reference tables;

(5) is adaptable to any architect's design, with no change in a single over-all dimension greater than two inches.

$36,000,000 experience

The soundness of Homasote Precision-Built Construction has been proved in $6,000,000 worth of architect-designed, pre-war, private homes all over the country—and in $30,000,000 worth of government war housing.

To the foresighted architect, Homasote Precision-Built Construction is the key to new post-emergency markets: low-cost housing projects constructed at a profit, large realty developments, machine-perfect homes in all price classes.

For more details, write
HOMASOTE COMPANY, Trenton, N.J.



HOMASOTE *Precision-Built* **HOMES**

FORUM OF EVENTS

(Continued from page 4)

GRENVILLE L. WINTHROP BEQUEST

Now on exhibit at Harvard's Fogg Museum of Art are more than 4,000 objects from the collection of the late Grenville L. Winthrop. Nine galleries in the museum have been rearranged to house the many paintings, sculpture, water colors, drawings, prints, furniture and porcelains. Outstanding among these are Peale's *Portrait of George Washington*, Duplessis' *Portrait of Benjamin Franklin*, David's *Napoleon*, Whistler's *Self Portrait*, Sargent's *Lady Lister* and Rodin's *The Kiss*. The bequest also includes an important collection of Chinese jades and bronzes and Buddhist sculpture temporarily lodged in the courtyard of the museum.

EXHIBITS

The Metropolitan Museum of Art has opened a special loan exhibit dealing with the Greek Revival in the U. S. Covering the period between the War of 1812 and the Civil War, the exhibit includes a display of the creative and decorative arts and the architecture of the period. Many "blown up" photographs are used to illustrate the Greek influence in architecture ranging from small cottages to mansions, churches and legislative buildings. Prominent architects of the period are represented by some original drawings, photographs and prints.

The Museum of Modern Art has opened its new photography Center located at 9 West 54th St., New York City. The purpose of the Center is to help and encourage both amateur and professional photographers. It occupies two floors of adjoining houses built by McKim, Mead & White in 1897.

The department was founded in 1940 and has since acquired more than 2,000 original photographs by nearly 200 photographers. Although the collection is chiefly composed of contemporary American works, it also includes outstanding examples from other countries and earlier periods.

Also on exhibition are 50 water colors and sketches entitled *Marines Under Fire*. The works were recently executed in the South Sea battle areas by the officers and men of the U. S. Marine Corps. The Marines, as they see themselves, will remain on exhibit until January 9th as part of the Museum's Armed Services program.

SCHOLARSHIP

The University of Michigan has announced the first award of the Albert Kahn Scholarship, open to students of architecture and engineering, received by James H. Blair, Jr., senior achitectural student from Gary, Ind. This scholarship was established in 1941 by gift of the Associated Architects and Engineers, Inc. of Detroit through Mr. Albert Kahn. It provides that emphasis be placed on candidates' records as to interest in the mechanical and electrical equipment of buildings.

APPOINTMENT

Harold Van Doren has announced the appointment of Russell R. Kilburn, industrial designer, as resident manager of the Toledo offices of Harold Van Doren & Associates. **Mr. Kilburn,** a graduate of Yale School of Architecture and the Beaux Arts School of Design, was formerly employed by Walter Dorwin Teague of New York.

ANNOUNCEMENT

Raymond Loewy, industrial designer has announced the formation of a partnership in his organization which will be known as Raymond Loewy Associates. New members are, Mrs. Jean Thomson Loewy, A. Baker Barnhart, John B. Breen, C. Louis Otto and William T. Snaith. All have long been associated with the Loewy organization in executive capacities.

They are working for health on

Tile-Tex floors

in America's Hospitals



The hospitals of this nation are carrying a heavy burden these days. War casualties, industrial accidents, and over-all war strain are taxing the hospitals to capacity. Proper floors for these institutions are essential if they are to maintain efficient hospital service with the restricted amount of manpower available.

Tile-Tex is helping to solve hospital floor problems. It is first of all easy to install, either in new or old buildings. It is tough and long-wearing and, what is extremely important, its sanitary surface is simple and inexpensive to keep clean.

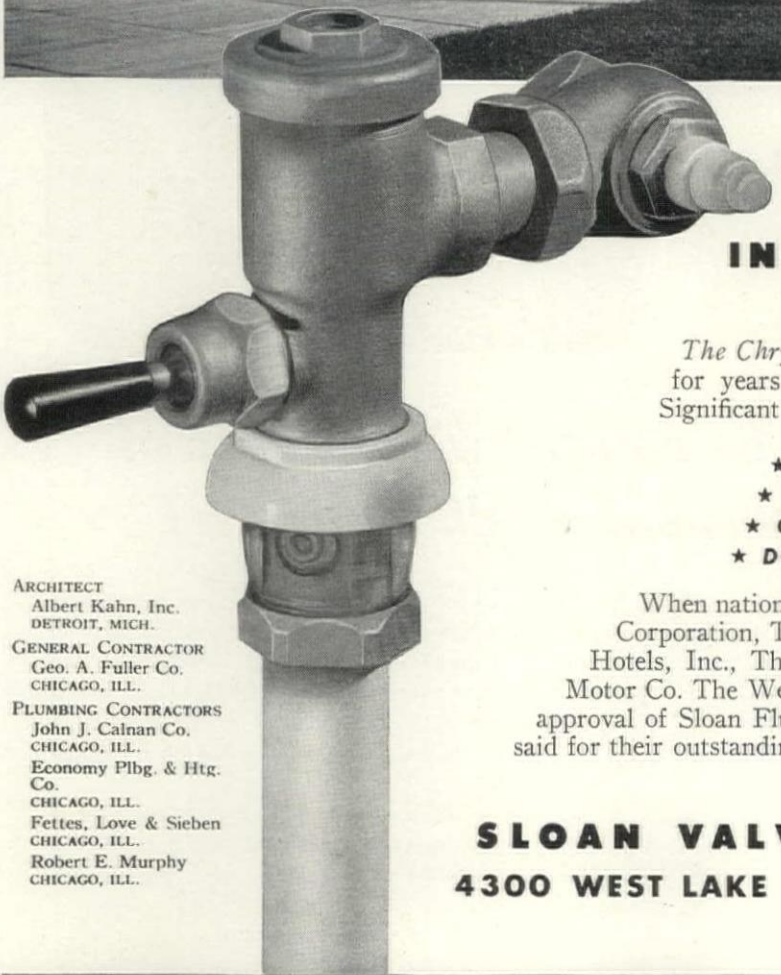
Tile-Tex is well adapted to practically all hospital areas. Its low first cost makes it attractive from a budget standpoint and, above all, it is still available in spite of wartime restrictions on many floorings.

It will cost you nothing to have an experienced Tile-Tex contractor survey your floors. Why not find out all the facts about how Tile-Tex can improve your hospital operating conditions? Write us for the name of the approved Tile-Tex contractor in your vicinity.

★ The Tile-Tex Company

101 Park Avenue, New York City • Chicago Heights, Illinois





DODGE CHICAGO PLANT INSTALLS *Sloan* VALVES

The Chrysler Corporation has used Sloan Flush Valves for years in its peacetime car and truck operations. Significant wartime installations include:

★ KOKOMO, INDIANA PLANT
★ EVANSVILLE ORDNANCE PLANT
★ CHRYSLER TANK ARSENAL
★ DODGE CHICAGO PLANT

When nationally known institutions such as the Chrysler Corporation, The Goodyear Tire & Rubber Co., Statler Hotels, Inc., The Hershey Chocolate Co., The Ford Motor Co. The Western Electric Co. etc., express their approval of Sloan Flush Valves — what more need be said for their outstanding performance.

ARCHITECT
Albert Kahn, Inc.
DETROIT, MICH.

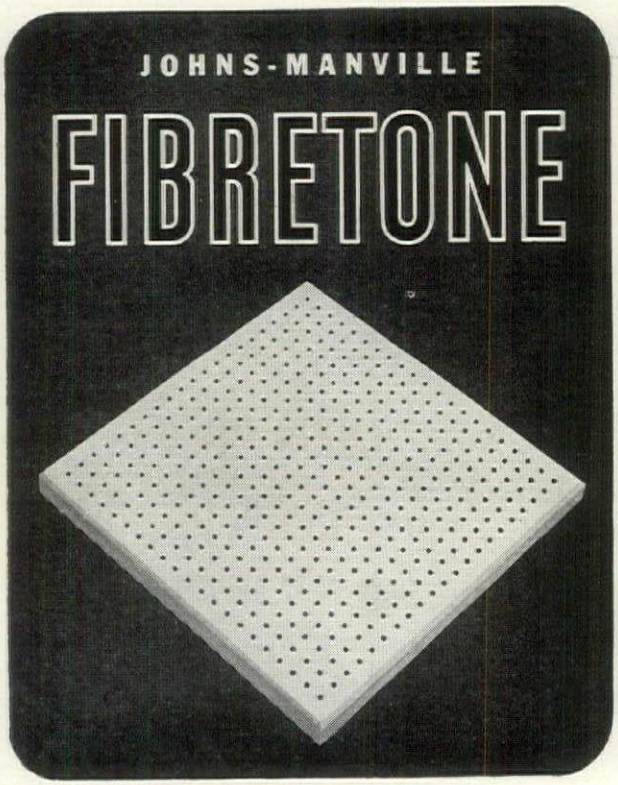
GENERAL CONTRACTOR
Geo. A. Fuller Co.
CHICAGO, ILL.

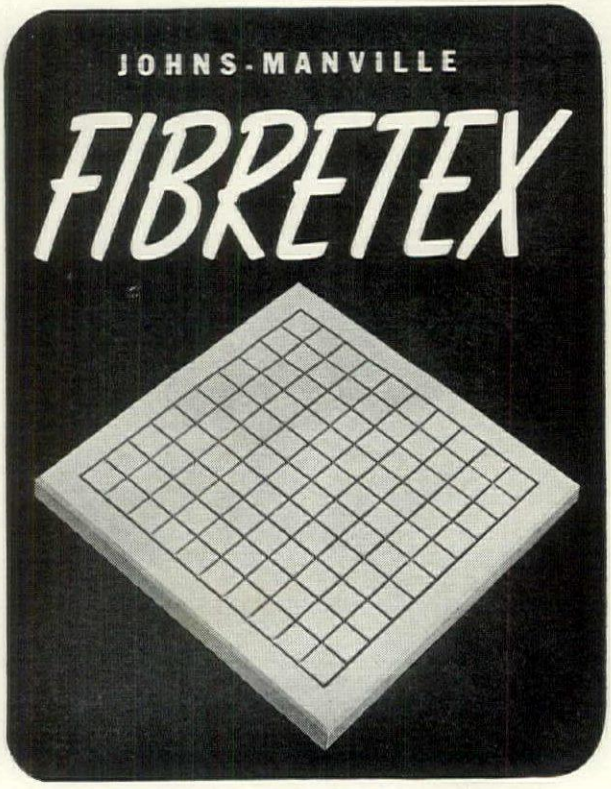
PLUMBING CONTRACTORS
John J. Calnan Co.
CHICAGO, ILL.
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CHICAGO, ILL.
Fettes, Love & Sieben
CHICAGO, ILL.
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SLOAN *VICTORY TYPE* FLUSH VALVES

Announcing TWO NEW J-M ACOUSTICAL MATERIALS!





Low in Cost! Can be painted without loss of Acoustical Properties! Available NOW!

NOW there are two new members in the famous line of Johns-Manville Acoustical Materials! Already, in plants, offices, and hospitals they are at work helping the war effort by reducing disturbing noise.

These new J-M sound-absorbing materials, Fibretex and Fibretone, bring the cost of J-M Acoustical Treatment within the reach of almost anyone. For they actually cost but little more than non-acoustical ceiling or wall materials. In addition, the highly efficient sound-absorbing qualities of Fibretex and Fibretone are unaffected by painting. Their smooth, durable, sanitary surface stays unusually clean and needs only occasional attention. And besides quieting noise, they insulate against heat and cold.

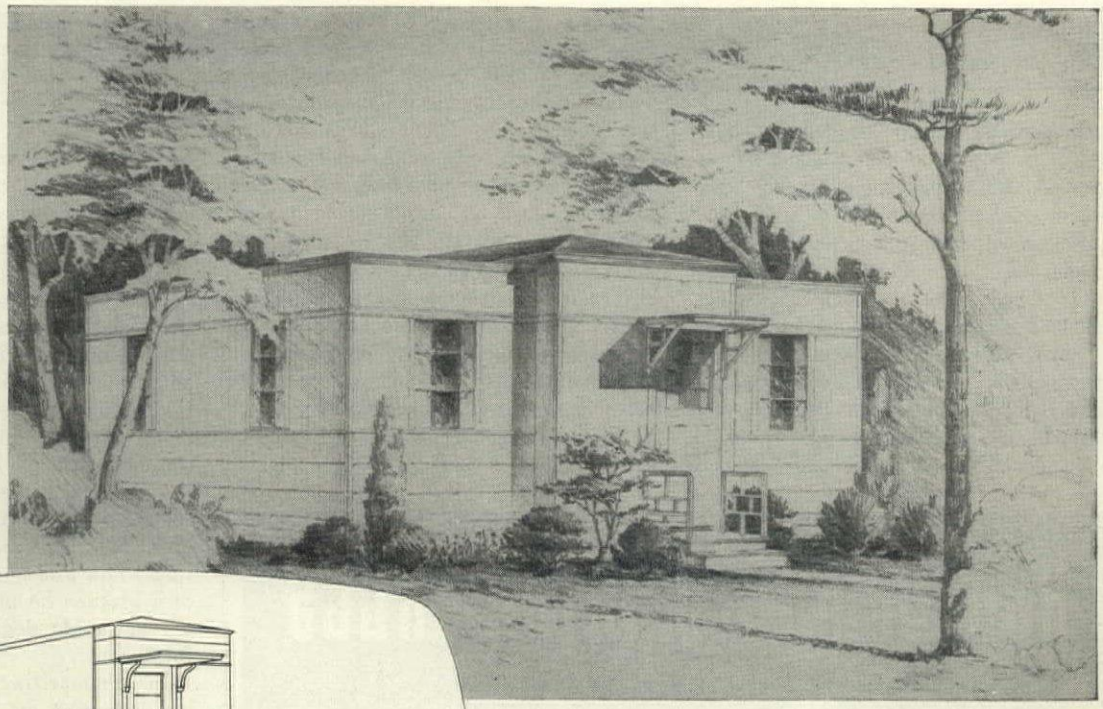
Fibretex and Fibretone are identical in composition—both are made in beveled units, 12 inches square, from carefully selected clean pine fibers, and are painted with two coats at the factory. Fibretex has a unique grooved design that makes possible entirely new decorative effects. Fibretone has the familiar perforated pattern.

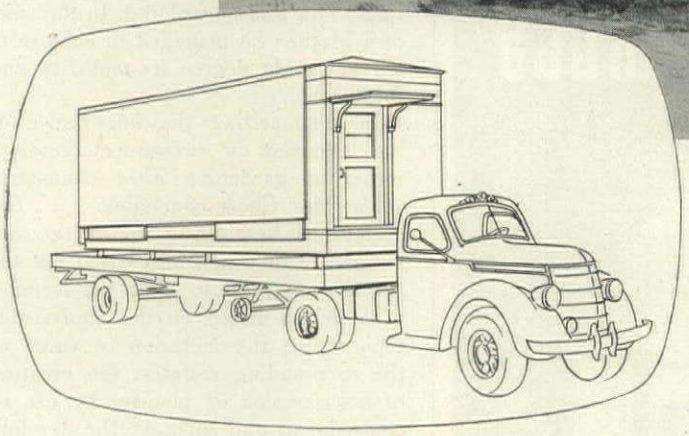
If you have a noise problem—and want to solve it efficiently and at low cost—look further into the use of these two new J-M quality acoustical materials. They are fully described in our new folder AC-29A. For a free copy, write Johns-Manville, 22 E. 40th Street, New York 16, N. Y.

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Johns-Manville *Acoustical Materials*





Mobility

A NEW WORD AS APPLIED TO HOUSING

IN the past, except in very rare instances, houses have always remained on the site where they were originally erected. Regardless of how the character of a neighborhood might change, its houses "stayed put". The owner of a home had no choice but to let it stand where it was or pay so much for moving it that he might better build a new home elsewhere. Consequently there has always been present in the building of a home a certain element of risk that could not be guarded against.

But with the coming of a new type of home — the Palace Portable Home which can be moved from place to place at the will of its owner — home ownership assumes a much more pleasant aspect.

A home of the Palace portable type can be moved, all in one unit, on a flat-bed motor truck, with practically the same ease as a van load of furniture. A patented construction feature makes this possible without disassembling the house or any part of it.

Completely factory-built, factory-assembled and factory-equipped — with plumbing, heating and lighting equipment installed at the factory — Palace dwelling units are ready for occupancy practically upon arrival at the building site, making it possible to supply housing for both wartime and peacetime needs more quickly than by any other method.

No wonder the Palace Portable Home is acclaimed as marking a new epoch in the field of home building!

Write for 4-Color Brochure of Palace Homes and Floor Plans.

Palace CORPORATION

Flint, Michigan

(Continued from page 20)

in the work of LeNotre, is stinging, but he was no kinder to the ancient advocates of the labyrinth or his ecstatic contemporaries who placed stucco and canvas castle ruins in a garden in frantic imitation of a Poussin landscape. Of the hermitage, a counterpart of Olmstead's pergola, he remarked:

"But the ornament whose merit soonest fades, is the hermitage or scene adapted to contemplation. It is almost comic to set aside a quarter of one's garden to be melancholy in."

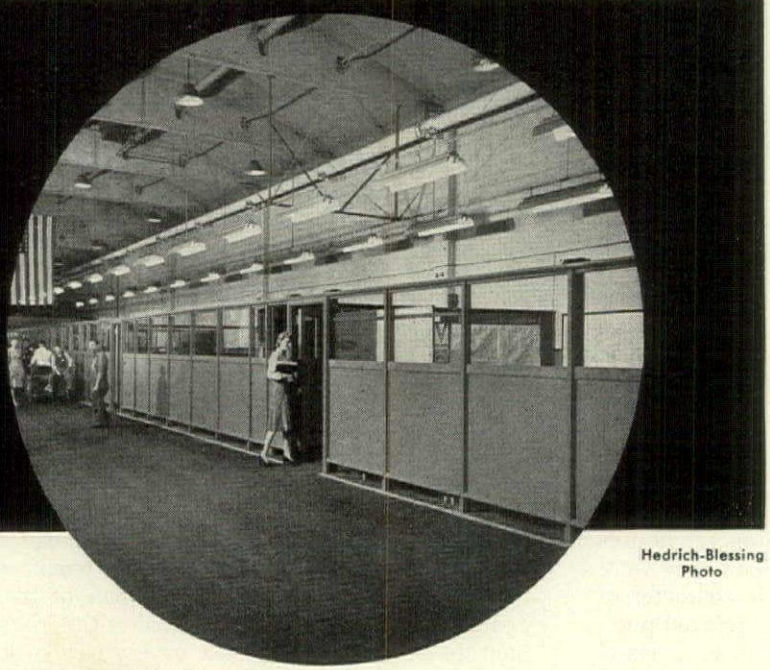
As practiced in our present traditional school of landscape architecture, Walpole's basic theory was that the design should be a refinement of nature's attributes. The majority of his criticisms stem from his belief that the topography of the land was not given sufficient study or importance in determining the design. The composition of Walpole's landscape was primarily governed by harmony and proportion; his technique laid modern emphasis on perspective, form, light and shade, texture and color. In a manner familiar today, he created the feeling of expanse by introducing unexpected vistas from various parts of the grounds.

As timely as Walpole's theories may seem, unquestionably some of the features of the eighteenth century romantic taste have been discarded in subsequent years. Sunk fences, chapels and elaborate benches are no longer used. However, these changes represent more a further refinement of the basic principles than a condemnation of characteristics. Undoubtedly many of the changes can be attributed to parallel differences in the size of estates, and social patterns of the eighteenth and twentieth centuries. For instance, less importance was attached to views from porches and windows than at present. Instead, unexpected points of interest were planned as surprises to be found while walking around the property. Walpole's art was to him startlingly new and unexplored. In the span of a lifetime he managed to achieve to a remarkable degree its maturity and fulfillment.

In summarizing the importance of his influence on subsequent developments in gardening after exhaustive study, Mrs. Chase concludes: ". . . full credit must be given to him for the consistancy with which he carried out the theories essential to him: the forming of a design based on the analysis of topography, the inclusion of views of the surrounding country, the creation of a succession of pictures by use of concealment and surprise, the development of an illusion of size by the same means, the harmonizing of the design as a whole with the architecture of the house and the natural beauty of the landscape along the Thames. It must also be recognized that he was in advance of his time in his respect for the formal element when needed, in his use of foundation planting to tie the house to the ground, in the moderation with which he used curves, and in his appreciation of the beauty and the value of flowers in garden design."

Though Mrs. Chase's primary interest is that of gardening, it is the intimacy of its development along with that of the sister arts which lends it a hitherto unsounded charm and interest. In approaching her study from both the literary and the artistic angles she has succeeded in creating a broad and colorful picture of the man and his times which would have been impossible had not both elements been taken into consideration. There is little retrospective outlining of the historical facts. Instead, the book is a living sketch which spans two centuries to uncover the roots of our modern concept of freedom, spontaneity and movement in design. It is furthermore an important contribution to the history of landscape architecture which, for once unchaperoned by botanical science, is given its just place among the fine arts.

HAUSERMAN MASTERWALLS



Hedrich-Blessing Photo

For 30 Years...

The Hauserman Company has developed and refined the design, manufacture, erection and servicing of Movable Partitions.

As our part in the War effort, we converted our metal fabricating facilities to the manufacture of Marine and Aircraft products. We are continuing to serve Masterwall users with Movable Wood Partitions which incorporate all of the features of steel partitions which can be executed in wood and other non-critical materials.

We are proud to have been able to furnish our WarMaster Wood Partitions in the Dodge Chicago Plant, designed by Albert Kahn Associated Architects and Engineers, Inc., and operated by the Chrysler Corporation.

During these War years we are learning the possibilities of new processes and of new materials which will be plentiful after the War. We thus hope to resume our leadership in the manufacture of Movable Partitions of Steel.

Handbook of Movable Partitions and Prefabricated Building Interiors sent on request.

THE E. F. HAUSERMAN COMPANY

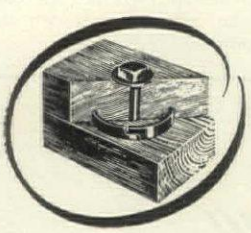
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You, too, will find the Teco Consulting Service, Design Data Service, Typical Design Service and Research Service of great help in designing and building with timber. Teco distributors and fabricators in all parts of the country * can render helpful services, too. TIMBER ENGINEERING COMPANY—Washington—Chicago—Minneapolis—Portland.



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Frank— Mail in this coupon and be sure to Specify

TECO
CONNECTORS AND TOOLS

Timber Engineering Company,
1319 18th St., N. W., Washington 6, D. C.

Please send me by return mail a Free copy of *"BUILDING for BATTLE—With the United States Navy."* The story in pictures of the Navy's spectacular use of lumber and timber during the Second World War.

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Firm Name.....

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This picture was prepared with the help of Fletcher Pratt, noted military authority.

PRELUDES TO VICTORY!

Swift and hard, U. S. forces strike one key objective after another.

In landing operations, as in every battle area, large quantities of Westinghouse-made weapons and equipment are fighting. On the production front Westinghouse Air Conditioning and Industrial Refrigeration provide correct conditions of temperature, humidity and air cleanliness to make possible uniform quality, high precision, fewer rejections, faster output.

When peace comes, a thousand new-day benefits will result from Westinghouse "Conditioning". Better products at lower cost, greater year 'round comfort—better living for all.

Back of Westinghouse skill in solving varied "conditioning" problems are years of experience—also a hermetically-sealed compressor which assures economy, dependability, long life. Inquiries are invited from producers of war equipment and from postwar planners.

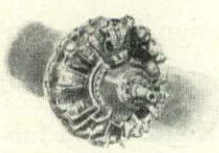
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Plants in 25 Cities . . . Offices Everywhere



RAPID FIRE SLUGGER. For perfect fit of intricate parts of Garand rifles, inspection gages are checked regularly against master gages kept accurate in rooms held at constant temperature by air conditioning.



CALLING ALL SHOTS. Communications devices, such as "Walkie-Talkie" pack radios, have vital delicate parts. These are protected by air conditioning against excess humidity, temperature and dust during manufacture.



AIR POWER. For extreme accuracy needed on many aircraft parts and instruments, the controlled temperature, humidity and air cleanliness provided by air conditioning make uniform results possible.



***SEE* POWER.** Grinding lenses and assembling precision parts of binoculars are delicate operations in which constant, specified air conditions are needed for accuracy and uniformity.

Tune in John Charles Thomas, NBC, Sunday, at 2:30 P. M., E.W.T.

Westinghouse *Air Conditioning*

GEARED TO A THOUSAND WARTIME NEEDS



STRIKE!

THEN WE'LL *SET 'EM UP IN THE OTHER ALLEY*

The armed forces are good enough to say that we are really mowing 'em down—in our war time job of making small parts for planes, tanks, guns—fighting units of all kinds.

But even as our factory hums with this vital war production, our engineers are laying plans to quickly "set 'em up in the other alley" when war is done.

In those days we know there will be many doors to close quietly . . . a hundred and one demands for door closers. Plans LCN is making today mean we will be ready then to supply you with products to sell . . . products geared to a new era whose outlines are just beginning to appear.

By this preparation, LCN will contribute not only to the further success of your business and ours . . . but to the upspeeding of an American economy of plenty . . . plenty of jobs . . . plenty of opportunity in a truly free America.

NORTON LASIER COMPANY, 466 West Superior Street • Chicago

LCN

DOOR CLOS

PRODUCTS AND PRACTICE

(Continued from page 8)

housing projects, either privately or publicly owned and operated, usually have good maintenance personnel and more uniform maintenance than some other types of buildings. It can also be assumed that the individual home owner will undoubtedly look after the maintenance, since he has his personal comfort in mind. In small buildings where maintenance cannot always be assured, an efficient operating method might be to wire the fan to the light switch of the bathroom it serves.

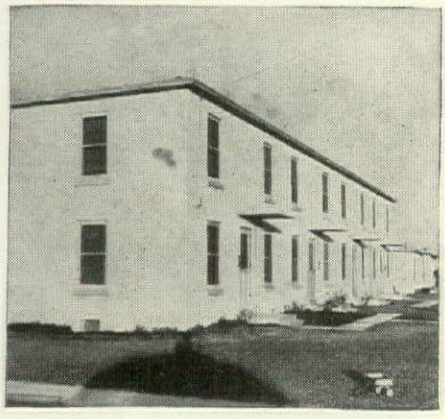
Final analysis

Architects would do well to examine the planning advantages of the interior bath in large projects as well as in small units. They should consider the flexibility of room arrangements along with substantial savings in construction costs which more than offset the small operating overhead. When they realize the improvements of mechanical ventilation over natural ventilation, both for the bath and for cross-ventilation of the apartment, perhaps some of the imaginary prejudices against inside baths will disappear, just as the once-familiar outhouse has long since vanished from the urban landscape.

Atlas WHITE News

Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Bldg. N. Y.

SAVE TIME AND CRITICAL MATERIALS WITH STUCCO



Stucco made with Atlas White portland cement was used on both exteriors and interiors of this Group Housing Project in Corpus Christi, Texas. Stucco contractors: Tobin & Rooney, Houston, Texas.

Portland-cement stucco made with Atlas White portland cement (plain or waterproofed) applied over masonry walls has proved an effective answer to wartime construction problems.

No steel for reinforcing mesh or nails—no lead and zinc for paint required. Quickly and inexpensively applied, stucco assures a strong, fire-resistant finish that withstands all kinds of weather—as permanent as concrete with low initial cost and low upkeep.

Since stucco is applied while plastic, a wide variety of textures are readily obtainable. For a true white finish, or when tints or colors are desired, specify stucco made with Atlas White portland cement. (For details and specifications, see Sweet's Architectural File, Section 9-14.)

Factory-prepared stucco is preferable

BRICK AND TILE MORTAR

Mortar made with Atlas White portland cement (plain or waterproofed) may be prepared in white or any tint desired. This makes possible many unusual and pleasing effects to harmonize or contrast with brick and tile and to accentuate its beauty. This mortar provides a hard, strong, non-staining joint which resists moisture penetration.

Send for information on these and other uses of *Atlas White* portland cement: Portland Cement Paint, thin precast Architectural Concrete Slabs, fine Terrazzo floors, Light-Reflecting floors. Write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N. Y.

AF-C-11

ELECTRICAL PRESTRESSING

(Continued from page 8)

steel. As the thermoplastic material melts, the heated rods lengthen and extrude from the concrete, whereupon a nut on the end of the rod is taken up the necessary distance to give the desired prestress when the rods cool, and the electrical connection is broken. Less than one minute application of current is enough to heat and extrude rods up to 1 in. in diameter. This period is so short that no appreciable heat is transmitted to the concrete or to induce expansion stresses. Moving up the nut on the end of a 30 ft. rod only $\frac{5}{8}$ of an inch will result in approximately doubling the working stress in the steel, or putting it another way, reduce the amount of reinforcement required by 50 per cent. When the electrical circuit is broken, the rod cools and the thermoplastic coating immediately hardens and restores the bond between reinforcing and concrete, a feature that is highly desirable from an engineering standpoint.

From the concrete standpoint, several important objectives are achieved by the combination of dewatering and prestressing. Vacuum processing, which removes excess mixing water after the concrete has been placed, approximately doubles the three-day strength of the concrete. At the same time the tendency to crack attributable to drying-out shrinkage, already reduced by dewatering, is finally eliminated by placing the concrete in compression by the prestressing operation.

As constructed at Tampa, after the concrete floors of the houses were cast in place, the walls were cast two at a time flat on the floor, erected and another pair cast. Canvas was first stretched tightly over the floor slab and the edge forms for the walls and openings, consisting of 2½ x 2½ in. angle irons, were placed and bolted together. Reinforcement was then placed, six $\frac{3}{8}$ in. rods running lengthwise of the wall and nine or thirteen similar rods transversely for the 25 and 30 ft. walls respectively, or a total of about 400 lbs. of steel per house. In erecting the houses, further use was made of the vacuum-processing equipment. To avoid excessive bending stresses in the extremely thin walls (which were erected when only four days old), a special lifting device was constructed which clamped to the concrete by vacuum suction with a total grip of 25 tons, although the heaviest wall did not exceed three tons in weight. The ends of the walls were mitred and fastened at the corners with angle iron clips after erection, followed by grouting.

(Building Reporter, p. 136)



Notice how the paint has peeled and flaked on these gutters made of ordinary galvanized metal.

THE TALE OF 2 HOUSES

THE gutters on the house at the top show what can happen when there is a poor bond between paint and galvanized metal. Even when a painter takes time to acid-etch the slick surface, the primary cause of paint failure is not overcome. The paint oils will still dry out and cause early peeling.

Compare this paint job with that on the house below. Here the gutters and downspouts are made of ARMCO Galvanized PAINTGRIP Sheets—the *original* bonderized metal. It takes and preserves paint because it has a neutral surface film that insulates the paint from the zinc. Exposure tests show good paint lasts several times longer on PAINTGRIP than on ordinary galvanized metal.

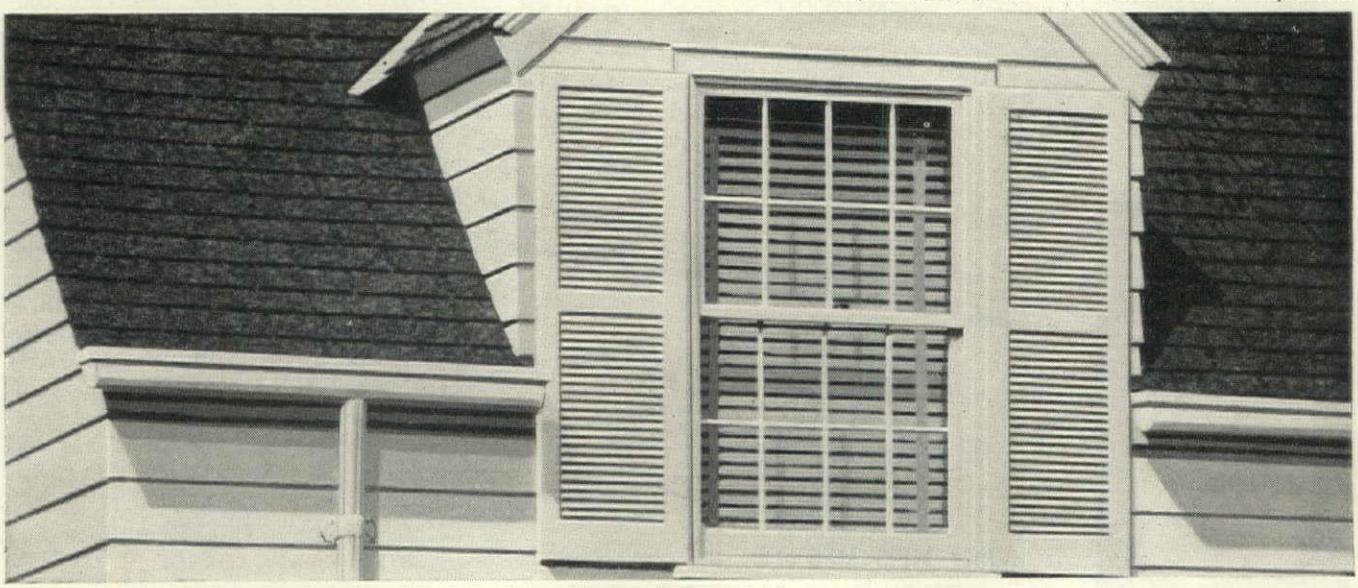
Would you like detailed data on ARMCO PAINTGRIP for residential and industrial construction? This metal is now supplied only for war construction, but you can include it in your specifications for post-war projects. The American Rolling Mill Company, 2841 Curtis St., Middletown, O.

MADE OF ARMCO GALVANIZED PAINTGRIP

ARMY E NAVY

THE AMERICAN ROLLING MILL COMPANY

Here's a PAINTGRIP *roof-drainage system. It will need repainting only when the house itself is repainted.*



(Continued from page 134)

TRANSPARENT CLOCK has motor concealed in base.

Features: Two rotating glass disks inside clock carry minute and hour hand, which rotate at the proper speed. They are framed in a metal ring provided with teeth which in turn are engaged in gears of the gear train mounted in the base of the clock which also provides space for the motor. The motor makes 4 rpm. and is provided with a worm. This worm turns the main shaft to 10 rph. On main shaft is also mounted a gear with 36 teeth which is engaged in the toothed metal ring around the glass disk carrying the minute hand. As the metal ring has 360 teeth, the minute hand just revolves once in an hour. By means of other gears and pinions, the speed of the gear is reduced 12 times so that the hour hand glass revolves only once in 12 hours. Clock is driven by a self-starting motor from the Hansen Mfg. Co., Princeton, Ind. Motor is guaranteed, and although clock can last a lifetime, every part is replaceable. Made entirely of metal, silver plated. Height 9¾ in. Price $37.50. *Manufacturer:* Etalage Reclame Corp., 48 East 28th St., New York 16, N. Y.



SHEET METAL to replace galvanized.

Name: Cheney Metal.

Features: By combining sheet steel with stearine-cottonseed pitches and pulverized slate, an outstanding successor to galvanized iron and sheet copper has been produced at about one-third the cost of copper. Material is made under high temperatures and pressure so that the steel core is completely protected with an elastic rubberlike material that will not run at high temperatures or crack at low temperatures. It is classified as a fire retardant. This new metal can be sheared, bent, die formed, riveted, soldered and worked with regular shop tools. It has also been thoroughly tested against weather, moisture, heat, cold, fumes, salt air and fire. Material forms easily into warm air heating or ventilating ducts, flashings, gutters, roofs, expansion joints, etc.

Manufacturer: Cheney Metal Products Co., Trenton, N. J.

GAUGE for measuring pipe sizes.

Name: Three-Point Pipe Gauge.

Features: Pocket-size gauge measures all size pipes from ⅛ to 12 in. It consists of two pivoted steel plates with edges curved at three points for contact with the pipe to be measured, together with a scale which automatically registers not only the pipe size in terms of inside diameter but the drill size for tapping. The gauge measures by the simple method of determining the outside arc of the pipe at three points of contact and, by placing the two fixed contact points of one plate against the outer contour of the pipe and sliding the second or movable plate until it makes the third contact, the marker on the face of gage will show accurately pipe and drill size. An additional advantage is that it is necessary to contact only a small section of pipe and that it will measure pipe in any position. Gauge is constructed of steel.

Manufacturer: Three-Point Gage Co., 3821 Broadway, Chicago, Ill.

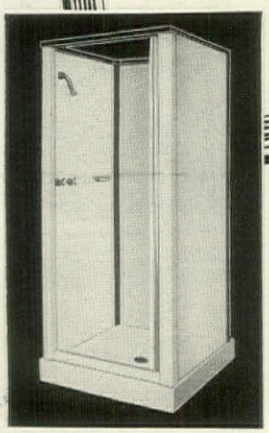


Memo to Architects Now Planning the Home of Tomorrow

Millions of new "converts" to shower bathing are being made right now—in public and private war housing, military camps and war factories! Their preference for the greater cleanliness, and comfort of bathing in clear, running water, will be carried into peace-time. Men and women alike will demand the full enjoyment of shower bathing which is provided by the Weisway Cabinet Shower.

Weisway pioneered the Cabinet Shower idea. After the war you can again look to Weis for leadership—with a complete line to fit the requirements of homes in all sizes and price classes. The most practical modern materials, advanced engineering and precision manufacture will mark Weisway post-war models.

In The Meantime Weisway Model V Deluxe provides thoroughly satisfactory bath facilities for war housing, military camps, factories, public or privately financed construction or remodeling. Conforms to WPB metal limitation orders; available immediately. Write for detailed information and specifications.



WEISWAY Cabinet Showers

HENRY WEIS MFG. CO., INC. (Est. 1876)
1202 Oak Street, Elkhart, Indiana

RIEFLY TOLD:

's November 1 adver-nent in Life Magazine, uring "The Suburban e" with semi-circular hen and living room, ringing in a flood of tiries which promises eat the outstanding rec- of previous TSA ads.

★

w "Suburban Home" er, now being distrib-d, includes detailed ting plan, floor plan, in-esting notes by D. Allen ight, architect. As a spe-l feature, the Modern tchen Bureau of The ison Electrical Institute s designed a modern ar-ngement for the semi-cular kitchen.

★

mong the features of the burban Home of special terest to architects is a zone automatically con-olled heating system with dependently operated ermostats on first and cond floors.

★

he next issue of Timken eat* (Timken's magazine or dealers and their em-loyees) will contain an uthoritative article by Dr. V. V. Howard of the Oil & Gas Journal on "Explora-ion Methods and Their Probable Effect on Future Oil Reserves." Also a story on "Cleaning Oil Strain-ers" with complete infor-mation on the latest fac-tory-approved methods.

★

We have received many appreciative messages from dealers on our policy of maintaining a full staff of service representatives in the field during this emergency—another Timken service to owners.

★

Less than ½ of 1% of all Timken users have substituted coal for oil. An excellent testimonial to user satisfaction, when you consider the pressure put on to substitute coal for oil.

**We'd like to send you a sample copy. Please write on your letterhead and mention this ad.*

ARMY E NAVY
For Production "Well Done"



Good will shot to - - - - !

You hear it every day—

Can't get the oil burner started . . . can't get a service man . . . don't know what to do!

But you seldom hear this about Timken Silent Automatic.

First, Timken Silent Automatic burners are designed and built to require *less* service — and to be *easy to service* when something does go wrong.

Second, Timken Silent Automatic dealers and mechanics know how to fix burners so they *STAY* fixed . . . thanks to factory training manuals and schools, backed up by expert advice from factory field men, new printed service aids, and frequent factory mailings to Timken owners.

Right now, a new 16-page booklet is on its way to Timken owners all over the country, packed with suggestions on how to keep equipment in good condition and reduce the need for service.

This interest in Timken users and Timken Dealers means a great deal to architects. For it results in better engineering of installations, better workmanship and lower costs, and assures greater client satisfaction.

After Victory, Timken is planning not only improved heating and air conditioning equipment but also other new products for the home. Each will be as dependable in performance, as economical in operation as the famous Timken Wall-Flame Oil Burner, and each will receive the same factory backing.

TIMKEN *Silent Automatic*

Quality Home Appliances—for Comfort, Convenience and Economy

Division of THE TIMKEN-DETROIT AXLE COMPANY, Detroit 32, Michigan

Decorative Harmony in Any Key . . .



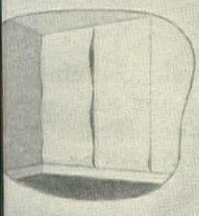
FIREPROOF—Made from Gypsum rock that will not burn, Sheetrock walls and ceilings form a fire-armor that fights the spread of fire and protects the building framework underneath.



"WELDED WALLS"—Panel joints concealed and welded together by Perf-A-Tape . . . stronger than the panels of Sheetrock themselves.



VERMIN-PROOF—Sheetrock has a mineral core . . . it does not attract or support vermin of any kind.



WON'T WARP OR BUCKLE—Sheetrock is like a stone wall. It does not twist and pull out of shape with changes in temperature and humidity conditions.

SHEETROCK

"Fireproof" WALL AND CEILING PANEL

Choose the "Color-Key"—the texture—design and treatment—*then go ahead!* Over the smooth, even, ivory surface of Sheetrock*, a wide variety of finishes and treatments is possible.

Sweeping, unbroken surfaces may be had—joints concealed and "welded" with Perf-A-Tape*, or made a part of the decoration with "Panel-Wall" method.

Whether it be paint, wallpaper, Calcimine, Casein paint, Texture paint or any usual finish that is sprayed, brushed or pasted on, it may be successfully applied over *pre-cast* Sheetrock walls and ceilings.

Pre-decorated Sheetrock may be pu chased in pastel shades or woodgra effects—ready to apply. If you want a t effect, you can have that, too.

—and beneath the surface-beauty Sheetrock is a core made from gypsu that will not burn—which acts as a "fir armor" to retard the spread of fire an protect the framework underneath.

Just name your job—Sheetrock will fi the requirements quickly, easily and a low cost. No wonder Sheetrock is th best known and most widely used gyp sum wallboard in the world.

*Trademarks Reg. U. S. Pat. Off.

US

UNITED STATES GYPSUM

300 WEST ADAMS STREET, CHICAGO, ILLINOIS

This famous trademark identifies products of United States Gypsum Company—where for 40 years research has developed better, safer building materials

YPSUM PRODUCTS • STEEL • INSULATION • ROOFING • PAINT

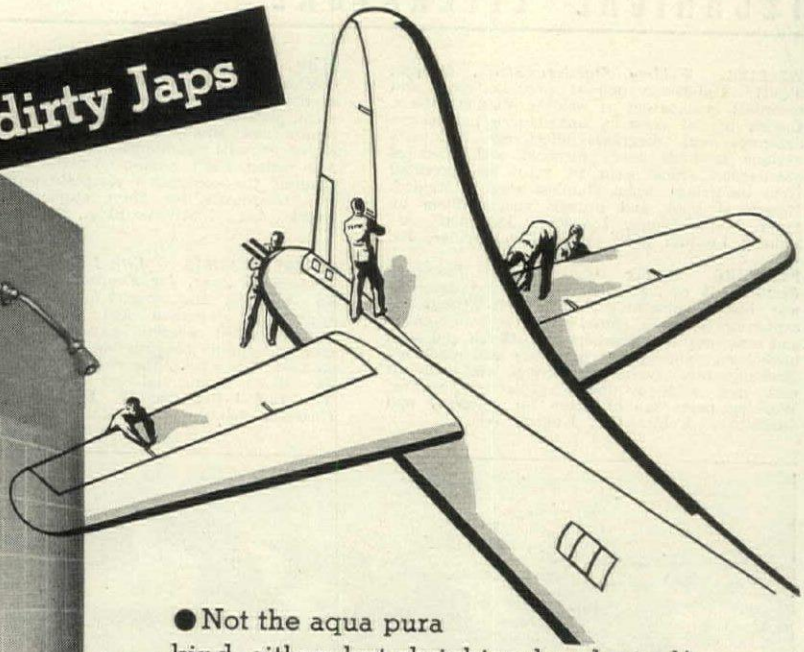
GYPSUM WALLBOARD • SHEATHING • LATH • PLASTER

FIREPROOF GYPSUM

The World's most widely used Mineral for making Fireproof Wall and Ceiling Products

GYPSUM FIREPROOF ROOF DECK AND PARTITION TILE

Hot shower for dirty Japs



● Not the aqua pura kind, either, but shrieking bomb steel! That's the promise of the Flying Fortresses which our people at Briggs help make.

Oh, yes...they made the bathroom showers once. They'll make them again, too... make them so well that "Briggs" will once more be a name in the forefront wherever men build or improve.

Till then, we're all-out on parts for bombers, guns and tanks. When we're done with those, the line of peace-time plumbing products we turn out will be something to behold!

BRIGGS MANUFACTURING CO. • DETROIT

BRIGGS *Beautyware* PLUMBING FIXTURES

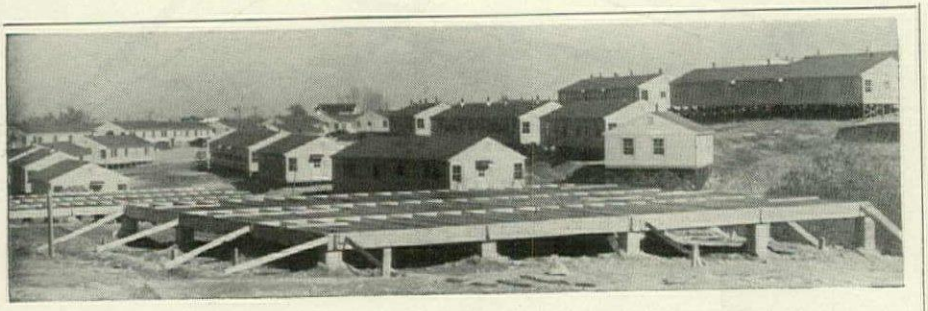
TECHNICAL LITERATURE

WELDING. *Welding Stainless Steels,* 64 pp., 8½x11. Handsome booklet gives a clear and technical explanation of welding stainless steels. Lavish use of color in imaginative perspective drawings and diagrams effectively illustrates various methods used, physical and chemical phenomena which occur (or must be prevented from occurring) when stainless steel is welded. Design of book and process visualizations by Peter Muller-Munk, Industrial Designer. Allegheny Ludlum Steel Corp., Brackenridge, Pa.

PLUMBING. *Kohler War-the-War Plumbing Fixtures,* 16 pp., 8½x11. New catalog describes war line of plumbing fixtures and fittings for cantonments, bases, ships, hospitals, war housing and maintenance. Numbers of patterns and sizes have been reduced, but parts are still made interchangeable. Bodies of fittings are made of cast iron with a plastic protective coating. Working parts are of brass for efficiency and durability. Kohler Co., Kohler, Wis.

GLUE. *Glues for War,* 20 pp., 9x11. Illustrated brochure shows how waterproof glues are used in the construction of wood-and-glue airplanes, ships, defense homes and buildings, arches and beams and smaller items such as laminated pulley wheels, ammunition boxes, cleats, etc. Also included is a section on preservatives which explains the company's complete series of low cost treatments for plant application. I. F. Laucks, Inc., Maritime Bldg., Seattle 4, Wash.

CONCRETE JOISTS. *Lith-I-Bar, The Safe, Economical Joist, for Fireproof Construction,* 8 pp., 8⅝x10⅞. Lightweight fireproof construction system is described and illustrated. These machine-rolled concrete joists make possible low cost and speedy construction of fireproof floors, so that it is within the cost range of residences as well as commercial and industrial buildings. The Lith-I-Bar Co. W. E. Dunn Mfg. Co. (licensed manufacturer), Holland, Mich.



PREFABRICATED DEMOUNTABLE HOMES

engineered at PEMBERTON

Today, Pemberton's manufacture of Prefabricated-Demountable Homes, Barracks, Hutments, Dormitories, Cantonment Groups, Mess Halls, Canteens and other War-emergency requirements of the Government take precedence over all other business. The Pemberton Mills have turned out thousands of units as a part of the Nation's war effort.

In addition the Pemberton Lumber & Millwork Corporation's plants at Pemberton have developed and produced thousands of Trusses and Sub-assemblies for war projects from Maine to Florida, and as far west as Utah.

Important Government Projects Supplied by Pemberton Mills

SAMPSON NAVAL TRAINING STATION, New York
BROOKLYN-BALTIMORE HOUSING PROJECT (1000 units)
WAR-WORKERS HOMES, Hartford, Conn.
BARRACKS AND CANTONMENT ASSEMBLIES, Fort Dix, N. J.
PREFABRICATED HOMES, Middle River, Md.
MIGRATORY FARM WORKERS HUTMENTS, King Farm, Morrisville, Pa.
FARM SECURITY ADMINISTRATION DORMITORIES (in several areas)
WAR-WORKERS HOUSING, Elkton, Md.
TILTON HOSPITAL SUB-ASSEMBLIES, Fort Dix, N. J.
(and scores of other U. S. Government war projects)

The Pemberton organization quickly became a factor in the rapid erection of thousands of War-emergency structures because its Engineers have been applying advanced construction methods to the present-day building needs of a Nation at War.

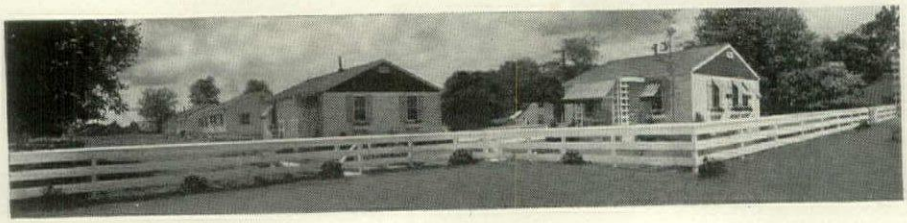
For Tomorrow, Pemberton's skill in the manufacture of Prefabricated-Demountable buildings of all types—a special objective of Pemberton research in peace as in war—will be graphically portrayed in the mass production of finer permanent homes.

Send for Illustrated Brochure No. P-25 at the address below.

PEMBERTON LUMBER & MILLWORK CORP.

Prefabricated-Demountable Industrial Buildings, Homes, Dormitories, Cantonment Barracks, Cafeterias, Field Offices, Administration Buildings, Hutments, Trusses, Sub-assemblies, etc.

Prefabrication Plants, Mill & Lumber Yards · PEMBERTON, NEW JERSEY · Tel. PEM. 8011



COLD CATHODE. *Cold Cathode Lighting Transformers,* Bulletin 162, 6 pp., 8½x11. Bulletin briefly discusses the utility, adaptability, color harmonics, safety, efficiency and future possibilities of the cold cathode light source. Also lists specifications for industrial and commercial type transformers. Acme Electric & Mfg. Co., Cuba, N. Y.

ELECTRICAL. *The Inside Story of Square D Company Research and Development,* 20 pp., 14x11. Pictorial presentation of research and practical testing activities of company, dealing with electrical equipment, aviation instrument and optical equipment. Square D Co., 6060 Rivard St., Detroit 11, Mich.

BENDING. *Pipe and Tube Bending Handbook,* 20 pp., 9x11. New and complete treatise shows methods and devices for bending pipes and tubes of copper and its alloys. It has 113 figures and illustrations, including 35 full pages of unit weights of tubes of different alloys with varying diameters, wall thicknesses and shape, as well as pertinent information on chemical and physical properties of such pipe material. Text covers subjects such as hot and cold bending, minimum radii, temper, and use of mandrels of various types. Bending with the use of filler materials such as sand, rosin, salt and low melting temperature alloys are described and illustrated. Step by step procedures for both smooth and wrinkle bending of large diameter pipe show methods and equipment in considerable detail. Copper & Brass Research Assn., 420 Lexington Ave., New York 17, N. Y.

FANS. *Hartzell Charavay Axial Flow Fans and Blowers, Catalog No. 14-B,* 40 pp., 8½x11. Catalog factually describes each fan and blower in company's line and gives standard test code air deliveries for every size in which each fan is made. Feature is a new duct fan designed for quick and economical duct mounting. Also included are formulae used in calculating air deliveries under various conditions. Hartzell Propeller Fan Co., Piqua, Ohio.

PAINT. *Paint at War,* 18 pp., 11x8½. Booklet sets forth story of providing multiplicity of coatings needed for the armed forces and other war agencies to protect vital equipment under world-wide conditions. National Paint, Varnish and Lacquer Assn., 1500 Rhode Island Ave., N. W., Washington, D. C.

INSULATION. *Insulating Materials,* 60 pp., 9¼x10½. Entire line of insulating materials is listed and described, including varnished cloths, varnishes, Glyptals, tapes, cords, cotton sleeving, varnished tubings, mica, wedges, soldering materials, cements and compounds. Appliance and Merchandise Dept., General Electric Co., 1285 Boston Ave., Bridgeport 2, Conn.

CIRCUIT BREAKERS. *Type KC-KB-KA Circuit Breakers, Catalog 1301,* 20 pp., 8½x11. Catalog describes three new types of circuit breakers developed to protect feeder circuits and also for use as main circuit breakers on medium capacity systems, particularly where frequent operation may be expected. I-T-E Circuit Breaker Co., 19th & Hamilton Sts., Philadelphia 30, Pa.

PAINT. *Valdura Heavy Duty Maintenance Paints,* 8 pp., 8¼x10⅞. New catalog, besides listing well-known line of paints, provides application suggestions, product descriptions and technical data in complete detail. American-Marietta Co., 43 East Ohio St., Chicago 11, Ill.

GLUE CHART. *Glue Recommendations for U. S. Government Specifications,* 2 pp., 11x28½. Chart illustrates the growing acceptance of glued wood as a war production material. Three new specifications denote recognition of a new glue, Cascophen LT67—a nonacid, low-temperature, phenol-resin—which makes possible joint gluing and laminating with the same maximum durability obtained for hot press plywood. Casein Co. of America, 350 Madison Ave., New York 17, N. Y.

ROOFING. *Specifications A-H,* 8 pp., 8½x11. Looseleaf specifications for applying Abesto cold application material for new and old roofs, recoating, flashing and dampproofing. Abesto Mfg. Co., Michigan City, Ind.

REQUESTS FOR LITERATURE

Harry A. Gage, Box 240, Pauls Valley, Okla., wishes to receive literature on postwar designs for houses, principally, small dwelling brick, frame, etc.

Charles Weiss, Secretary, Ardmore Development and Construction Corp., Suite 924, 30 North La Salle St., Chicago 2, Ill., would like to receive information on postwar housing—plans, sketches, literature and samples of types of materials used.

What do you want to know about the coal industry?



ROY SPALTHOFF, New York Riveter, *asks:*

Why are there more strikes in coal mining than in other industries?

There are many people who think as you do, because anything affecting the coal industry is so important that it gets widespread publicity. But the fact is, our contract with the union comes up for discussion every two years, and there are rarely strikes at any other time. Naturally, we wish the record were better. We hope that all future strikes can be avoided. Up to this time, however, strikes in our industry have been spectacular rather than frequent.

ART ROLLINS, Carrizozo, N.M. Druggist, *asks:*

Why don't you give miners better working conditions?

We are working on this problem all the time. Straight through the lean years of the "thirties" we have been shifting the hard work to modern machines. Men formerly had to lie on the mine floor and gnaw at the coal with picks and shovels in doing what is called "undercutting." Today, 90% of the undercutting is done by mechanical gophers, driven by electricity. About 40% of all coal is now loaded into mine cars by mechanical loaders — more will be handled this way as machines become available. These machines also, by saving costs, have helped us to pay steadily better wages. As an official report of the National War Labor Board shows, the wages of coal miners today are twice what they were in 1933.

ELAINE KOTHE, Detroit Secretary, *asks:*

Why do miners have to buy in company stores?

Many people have this impression, but the truth is, miners are free to buy where they please.

Company stores were originally started for the convenience of miners, before the days of the automobile, and before chain stores had grown to their present size.

There are some mining towns today which are served only by company stores. This is likely to be true in towns where mines will soon be worked out, and outsiders do not wish to start in business.

But in most mining towns there are many stores, and chains and independents are welcome. In many cases miners will tell you that company stores are the best in town.

It must be remembered that the bituminous mining industry is made up of many separate companies operating in many towns under many conditions. In all honesty, some company stores are better than others, just as some independent stores are better than others.

But, coming back to the original question, there are no rules requiring miners to buy at company stores, and there haven't been any such rules for many years.

BACK THE ATTACK— WITH WAR BONDS

Bituminous coal is by far America's most important fuel. For that reason we feel that the public has a right to know what kind of industry is providing this coal today.

Our business is an open book. Anyone who takes the trouble can dig out any fact he wants to know about it.

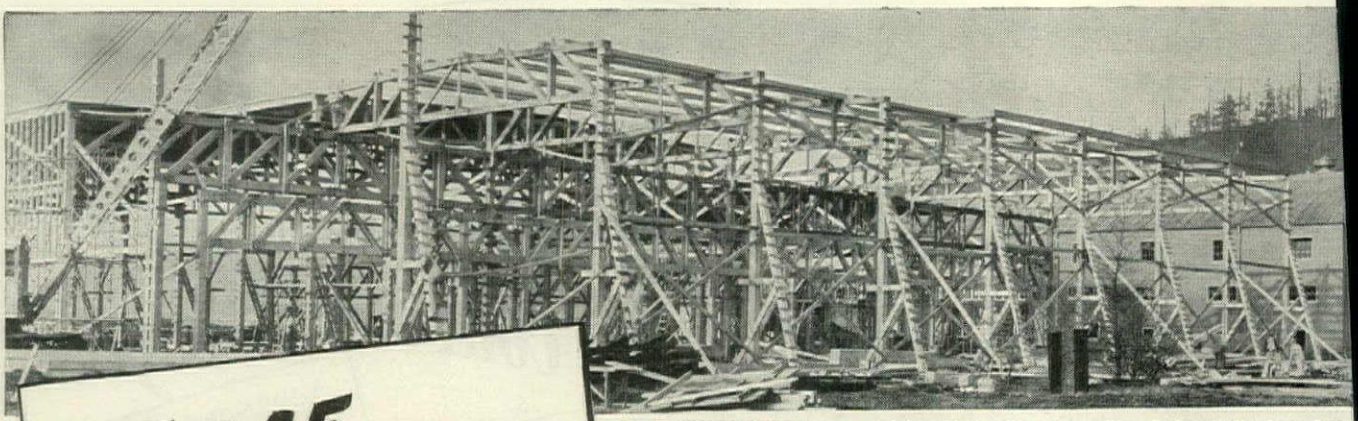
But we'd like to save you that trouble. So we have invited thousands of people to send us their questions—and in a series of advertisements such as this we'll try to answer the ones which seem to have widest interest.

Our story is a big one, and we cannot hope to tell it all at one time.

But we believe the more you know about it, the more you will realize that we try to live up to our duties to our country, our customers, and the people who work for us.

BITUMINOUS COAL *Institute*

60 East 42nd Street New York 17, N.Y.



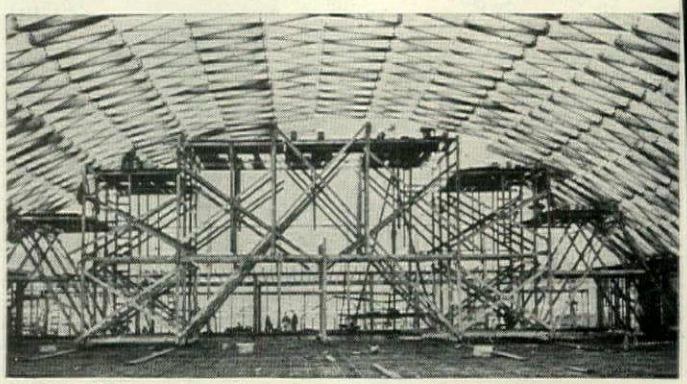
SHIPYARDS are rush jobs. Timber Structures, Inc. designed, fabricated and assembled trusses and other items for major buildings in this modern yard.

TIME IS IMPORTANT-

USE TIMBER STRUCTURES

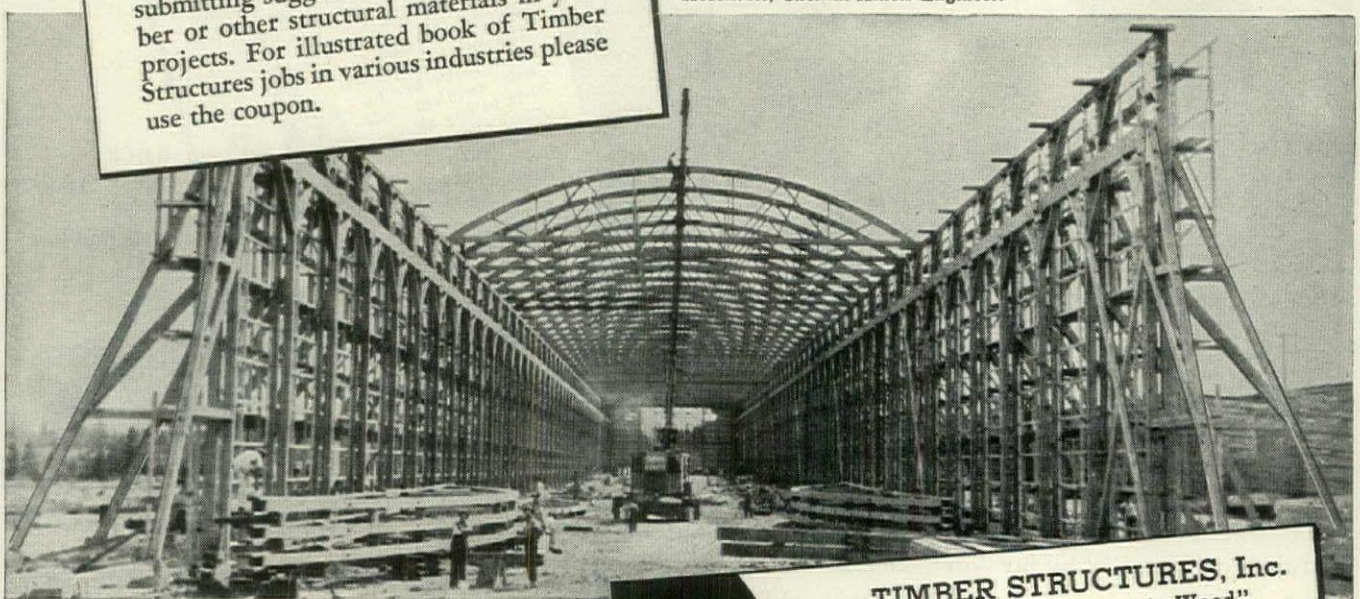
Buildings are erected quickly when you specify roof trusses by Timber Structures. Coupled with construction speed are advantages of economy, strength, permanence.

This organization specializes on design, fabrication, assembly and erection of trusses and other timber items. All types of industrial construction are served—from small business buildings, bridges and factories to huge army depots and aviation housing. We welcome the opportunity of submitting suggestions on trusses of timber or other structural materials in your projects. For illustrated book of Timber Structures jobs in various industries please use the coupon.



IN 10 DAYS the Lamella type roof was erected for this 100′x80′ army sports arena. Designed by U. S. Engineers. Contractor: Henry Boyer Son & Co., Olympia, Wn.

BY ADAPTING CUSTOMER'S EQUIPMENT already on the premises—thus cutting waste motion and expense—the 46-94′ trusses on this storage shed for Shevlin-Hixon Lumber Co., Bend, Oregon, were economically erected in a few days. Building designed and supervised by Gerry Horskotte, Shelvin-Hixon Engineer.



TIMBER
WARD MAYER
STRUCTURES
INCORPORATED
Portland 8, Oregon • New York 17, N.Y.
ENGINEERING IN WOOD

MAIL COUPON FOR LITERATURE

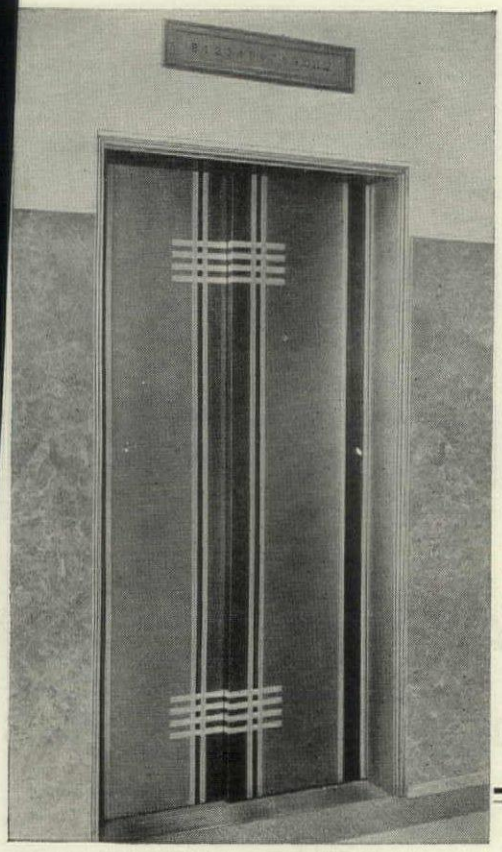
TIMBER STRUCTURES, Inc.
Send Book "Engineering in Wood"

Name _____

Address _____

Type of building or business . . _____

If *west* of the Mississippi, send to Portland 8, Oregon. If *east* of the Mississippi, send to 535 Fifth Avenue, New York 17, N. Y.



THE TOOLS OF WAR *have shown us* A BRIGHTER FUTURE



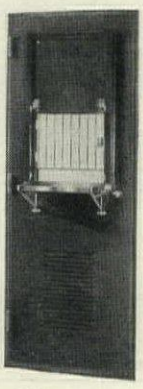
Perhaps it is a sad and ugly fact that wars stimulate our imagination and inventive ability. On the other hand, with life itself at stake, you *must* think fast to survive.

In the wide miscellany of war's tools which we have helped to design, engineer and fabricate, more than one post-war betterment has been born. Yes, the Tools of War have taught us better ways. When we go back to peace-time pursuits, the things we build will be built better as a consequence.

But our story is just one amongst many. New products, new materials and new methods present new opportunities to the Building industry. Because of these, and other encouraging factors, we, at Dahlstrom, believe the future holds great promise for Building... America's Number One post-war activity.

(*Top Illustration*). Dahlstrom first floor Elevator Entrances in the Charity Hospital of Louisiana, New Orleans, La. Weiss, Dreyfous & Seiferth, Architects.





25,000 SEA GOING DOORS

By DAHLSTROM

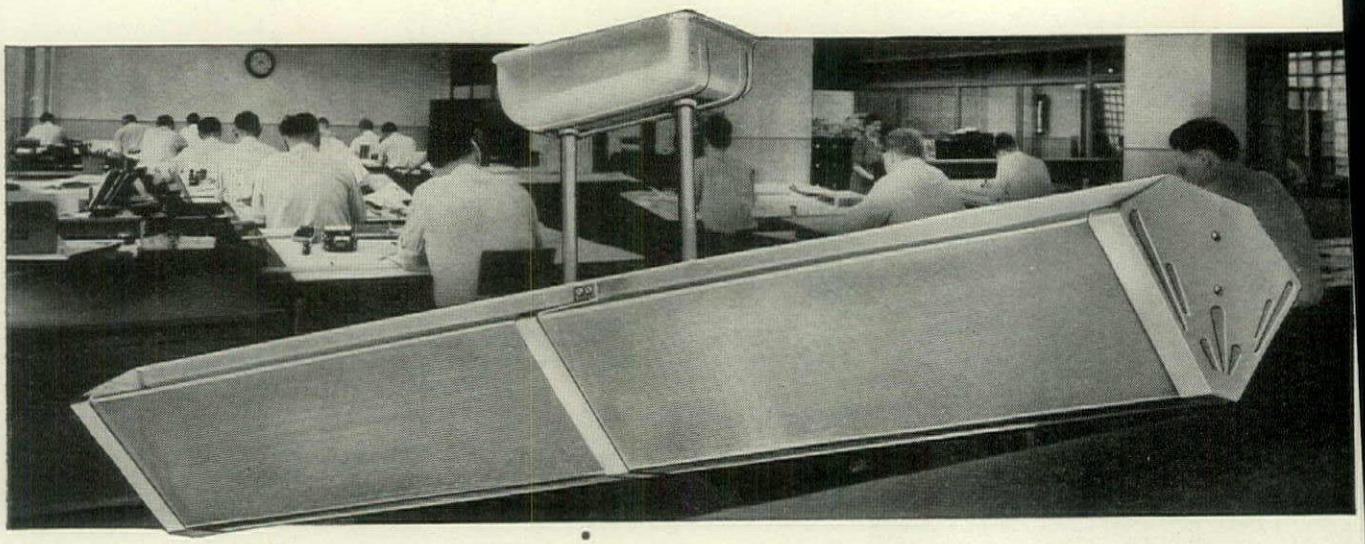
Here is one of several reasons why we fly the Army-Navy "E". All metal joiner doors built in our plant for the Navy and Maritime Commission are a part of our great and ever-growing Battle and Victory fleets. So far, over 25,000 doors have been produced.

DAHLSTROM

METALLIC DOOR COMPANY, JAMESTOWN, N. Y.

BRANCHES IN NEW YORK, CHICAGO, PHILADELPHIA, BOSTON AND SAN FRANCISCO

Representatives in Principal Cities



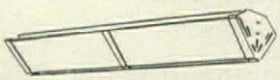
FOR THE FIRST TIME SINCE JUNE 1942

an improved fluorescent fixture

FOR DRAFTING ROOMS AND OFFICES

SYLVANIA-ENGINEERED ADAPTABILITY OF THIS NEW FIXTURE

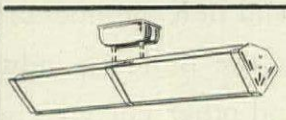
HANG IT ANY WAY YOU WANT



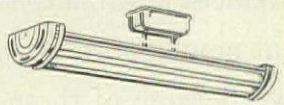
1. Surface Shielded



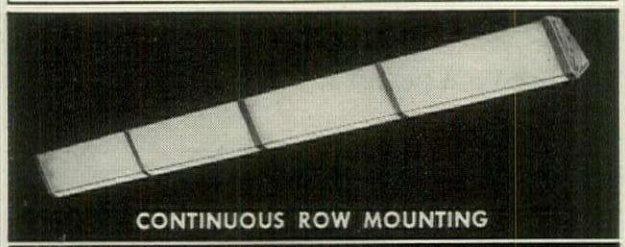
3. Surface Unshielded



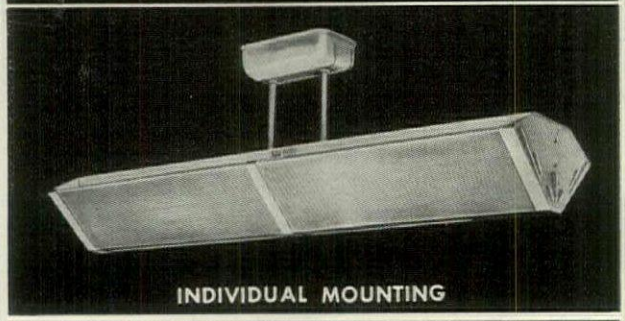
2. Pendant Shielded



4. Pendant Unshielded



CONTINUOUS ROW MOUNTING



INDIVIDUAL MOUNTING

"EVERYTHING THAT'S FINEST IN FLUORESCENT"

A RECENT WPB order makes it possible to release this new Sylvania commercial fixture, which offers you outstanding flexibility of installation.

Simple, smart, and modern in design, this new model is ideal for factory offices, drafting rooms, schools, and hospitals.

Its semi-direct light distribution provides real visual comfort through shadowless and glare-free illumination.

Light in weight, easy to install and maintain, it has a relatively small load (200 watts), which is seldom heavy enough to require the rewiring of existing circuits.

And you get a complete, pretested package of light — with 40-watt Sylvania Lamps, Mirastat Starters, and high-power-factor Dualamp auxiliary — completely wired and ready for installation.

This model — unshielded C-200R and shielded C-201R — is available to you on a priority of A-1-J or better, with specific WPB approval required for continuous row installations. It carries Underwriters' Laboratories inspection label and Sylvania's own guarantee. Write for further details, specifications, and prices.

SYLVANIA

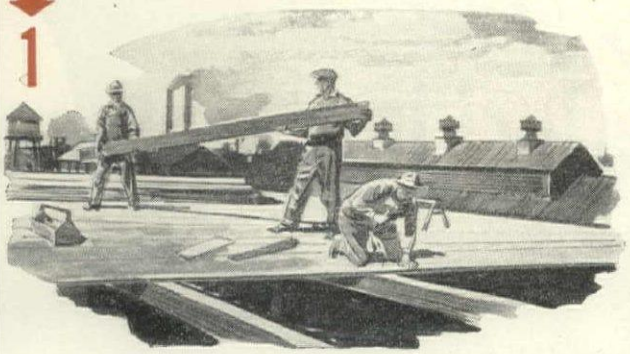
ELECTRIC PRODUCTS INC.

Ipswich, Mass.

INCANDESCENT LAMPS, FLUORESCENT LAMPS, FIXTURES AND ACCESSORIES, RADIO TUBES, OTHER ELECTRONIC AND ELECTRICAL DEVICES

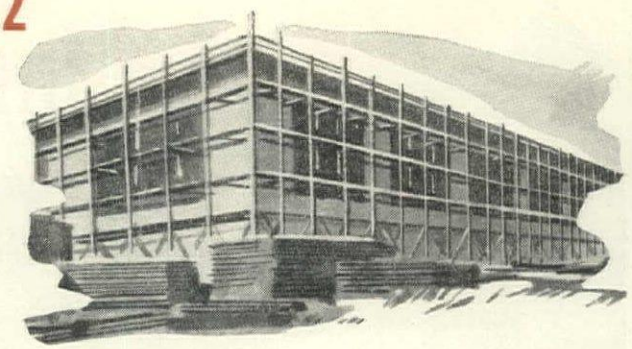
Will Construction furnish the POST-WAR "CUSHION"?

1



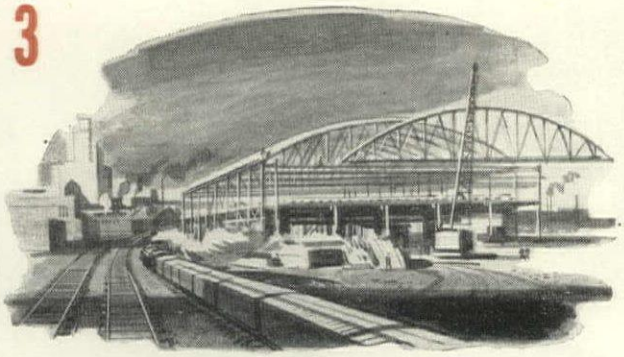
It is estimated that the people who will be engaged directly and indirectly in construction and building may be two millions *more* in the post-war period than there are right now.

2



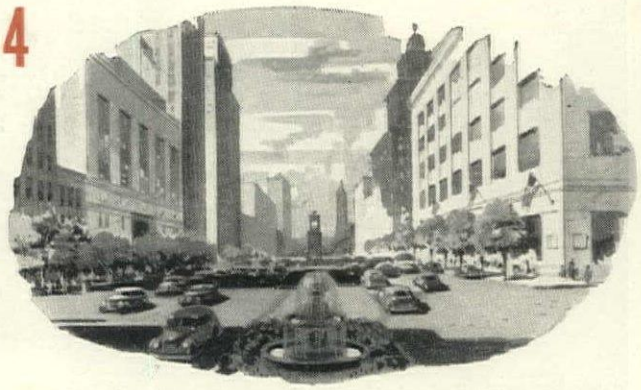
Total new construction of all kinds may run as high as ten billion dollars.

3



New industrial construction of around three-quarters of a billion dollars has been predicted.

4



Commercial construction may be as much as five times as great as it was in 1933.

5



In planning for all this activity, remember that nothing in peace or war has produced any roofing or waterproofing that exceeds coal tar pitch and felt for durability, effectiveness and low maintenance.

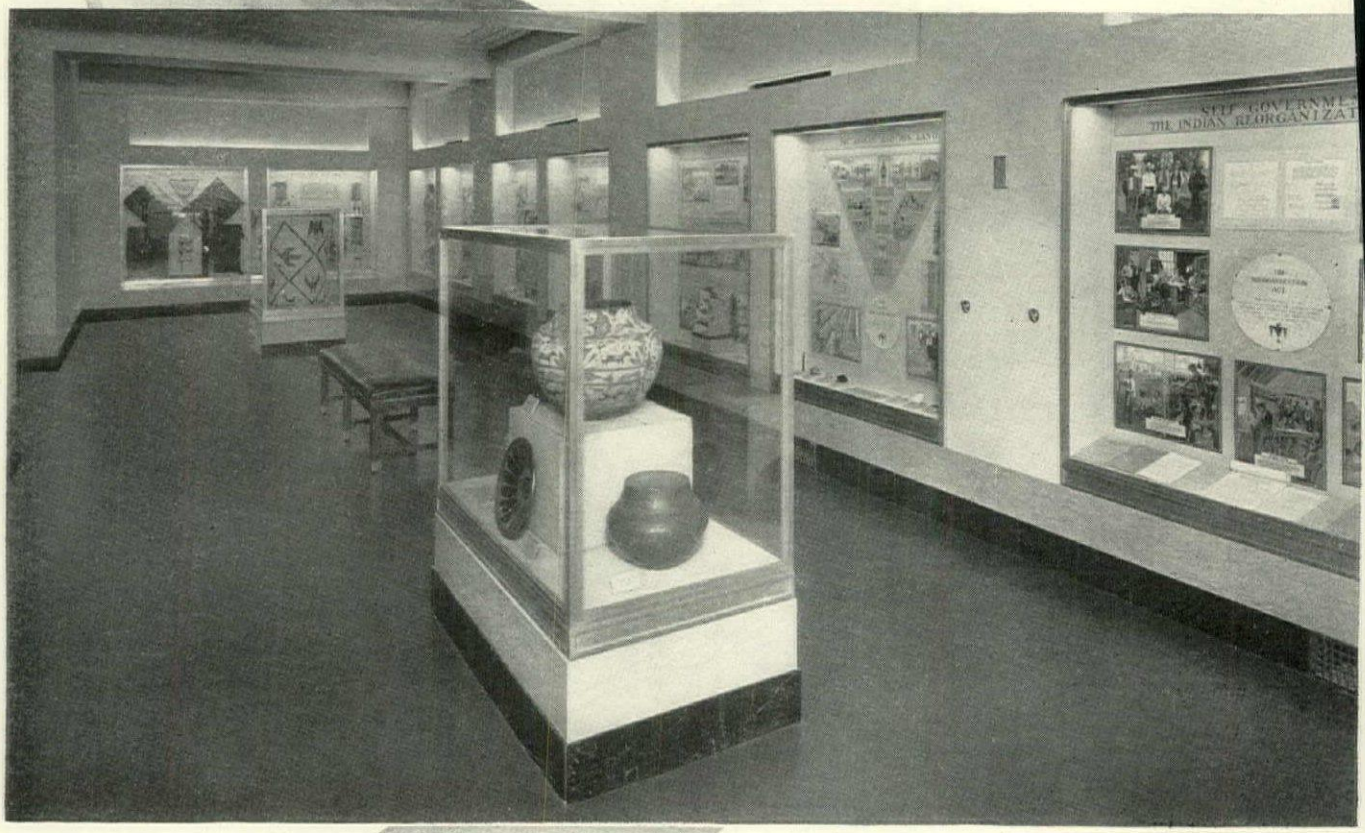
Coal Tar Roofing
Coal Tar Waterproofing

Koppers Company and Affiliates, Pittsburgh, Pa.

KOPPERS

THE INDUSTRY THAT SERVES ALL INDUSTRY

MICHAELS
EXHIBIT CASES
with "*Time-Tight*" Innerlocking Frames



Michaels *Time-Tight* Exhibit Cases are made in a wide variety of styles and sizes. Table Cases, Wall Cases, Aisle Cases, Suspended Cases, Recessed Cases and special cases for special uses. Time-Tight Innerlocking Frames, an exclusive Michaels feature, meet the requirements of all users of exhibit cases. Illustrated folder giving complete details and specifications will be sent on request. ¶ War needs now engage all Michaels resources, but when Victory has been won, the production of many peacetime products of ferrous and non-ferrous metal will be resumed.

MICHAELS SINCE 1870

MUSEUM CASE DIVISION OF

THE MICHAELS ART BRONZE CO., Inc.

Manufacturers of many products in Bronze, Aluminum and other Metals

COVINGTON, KENTUCKY



"TO YOUR GOOD HEALTH, SOLDIER"

Yes, we drink to your health . . . but we do more. We work night and day to keep it a reality. We help keep your barracks, mess-rooms, and recreation-rooms at healthful temperatures. We help keep your clothes clean, and sanitary. We help prepare your proper, well-balanced diet.

Yes, here in York we are devoting all our efforts toward backing you up 100%. Much of our work is producing York Oil Burners that are seeing service on almost every front. And you can bet that it is the finest burner that our long years of experience make it possible to produce.

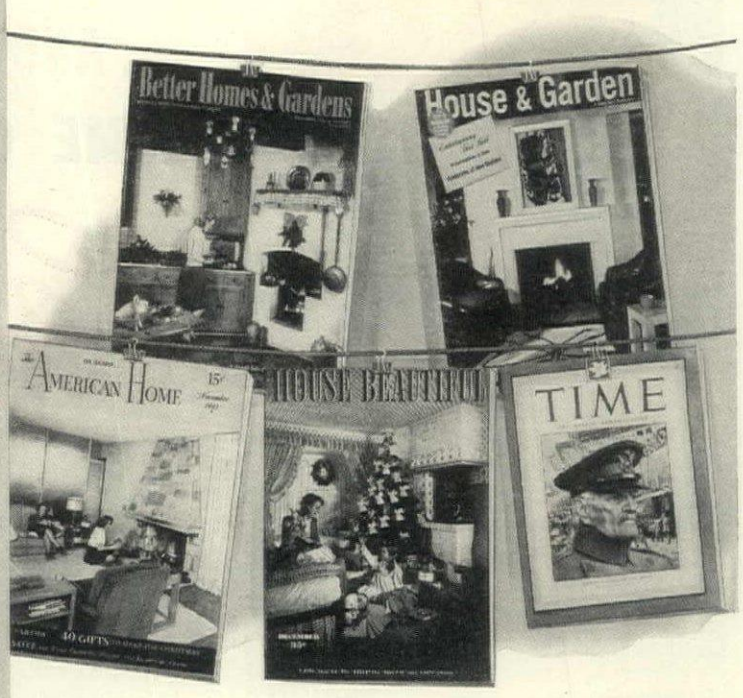
Supplying dependable heating-units for your laundries, quarters, and kitchens that stand-up under battle conditions, has taught us a lot, too. And when you come home, you'll find new features engineered into York Oil Burners that will mean new comforts and new conveniences.

* * *

Buy Bonds, and keep on buying, so that we'll have the purchasing power to provide these men with jobs when they return.

YORK HEAT

Division of YORK-SHIPLEY, INC., York, Pa.



CULTIVATING TOMORROW'S MARKET

Today!

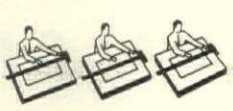
When the shouting's all over and you settle back to cashing-in on the tremendous post-war market, York Heat will be on hand to help you with the finest oil-burners in its long history.

Building up an acceptance for York Heat is also part of the job. Every month hundreds of your future customers are reading York Heat messages like these in leading magazines.

Be sure to include York Heat in *your* post-war plans. In the meantime, copies of the York Heat Service Manual are available to help you service your present customers.

This is another of the YORK HEAT advertisements appearing regularly in:

AMERICAN HOME — HOUSE *and* GARDEN
HOUSE BEAUTIFUL — TIME (*Canadian Edition*)
BETTER HOMES *and* GARDENS



YORK HEAT

***Division of* YORK-SHIPLEY, INC., YORK, PA.**



. . . AND AFTER VICTORY HOME OWNERS WILL DEMAND *Electric Ranges!*

1905 The Electrical Age really began when American homeowners began to *insist* on Electric Lights in their new homes.



1925 Then came the mounting demand for Electric Refrigeration and homeowners insisted on additional outlets for refrigerators and other appliances . . . Apartment houses *had to* provide Electric Refrigerators.



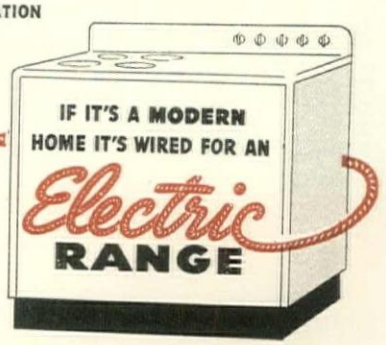
194V **ELECTRIC RANGES WILL BE "MUSTS"** after "V" day. To sell easily, the Houses of Tomorrow will *have to* be wired for Electric Ranges.

BEFORE THE WAR, the speed, safety, cleanliness and convenience of Electric Cookery was already well established. In 1940, 450,000 Electric Ranges were sold — in 1941, 780,000! The swing was on!

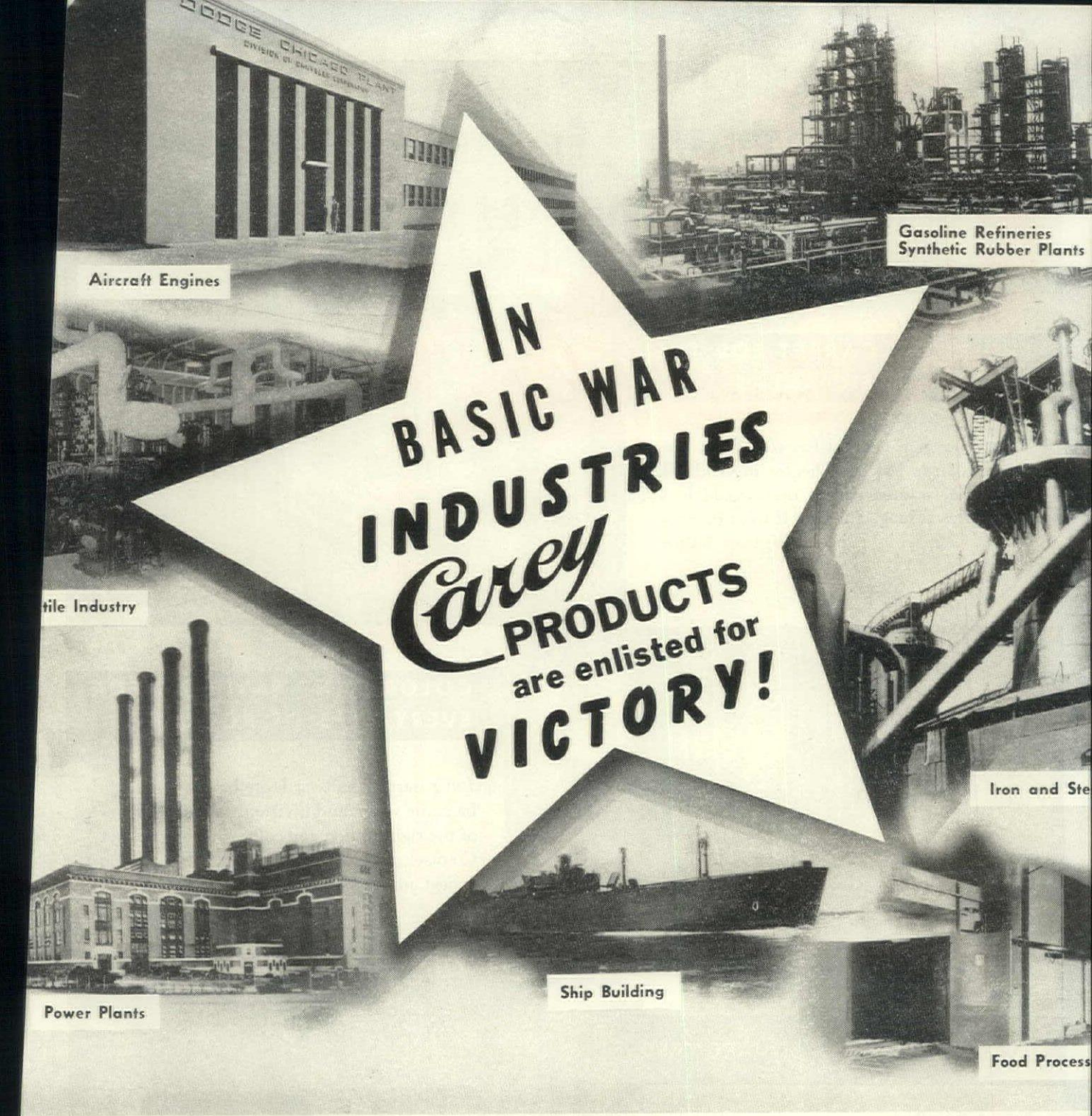
AFTER THE WAR, the increased demand is going to be huge! So plan *now* to wire the homes you're going to build for Electric Ranges. Built-in, the cost of such wiring is negligible — the selling power tremendous!

ELECTRIC RANGE SECTION, NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

Wire Your Houses FOR EASIER SALES



ESTATE • GENERAL ELECTRIC • GIBSON • HOTPOINT • KELVINATOR • MONARCH • NORGE • QUALITY • STEWART-WARNER • UNIVERSAL • WESTINGHOUSE



Architects: Dodge—Chicago Plant, Division of Chrysler Corporation, Albert Kahn, Associated Architects and Engineers, Inc.

WHEREVER you go in America today, you'll find busy war industries in which CAREY Products make a notable contribution to *high production efficiency*.

In aviation gasoline refineries . . . synthetic rubber units . . . power, food processing, textile, aluminum, steel, airplane motor, machine tool, and munitions plants . . . in Government buildings and on Victory ships — in every type of war activity — CAREY Products are helping to conserve fuel, step up kilowatt output, save labor and materials, speed production . . . and win the war!

CAREY HEAT INSULATIONS are making possible maximum power production on minimum fuel. CAREY BUILT-UP ROOFS and fireproof CAREYSTONE SIDING are protecting valuable plants and equipment against fire and fumes. CAREYDUCT is maintaining high efficiency in air-conditioning systems. CAREY ASBESTOS PIPE-LINE FELT is protecting emergency pipeline against corrosion. CAREY ELASTITE FLOORING is speeding plant traffic, saving time, money, manpower. CAREY ELASTITE EXPANSION JOINT is assuring maintenance of concrete floors and runways with minimum labor and expense.

If it's "top" wartime plant efficiency and economy you're after — specify CAREY Products. Write Dept. 20 for details of the CAREY Products.

★ ★ **Industrial Products** ★ ★

of ASPHALT — ASBESTOS — MAGNESIA

★ Roofing . . . Siding . . . Flooring . . . Insulations . . . Waterproofing Materials . . . Expansion Joint . . . Asbestos Paper and Millboard . . . Air Conveying Systems . . . Asbestos Oil & Grease Absorbent . . . Asbestos Pipeline Felt . . . Insulated Sheathing . . . Rock Wool Insulation. ★

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

THE PHILIP CAREY MFG. COMPANY • Lockland, Cincinnati, Ohio

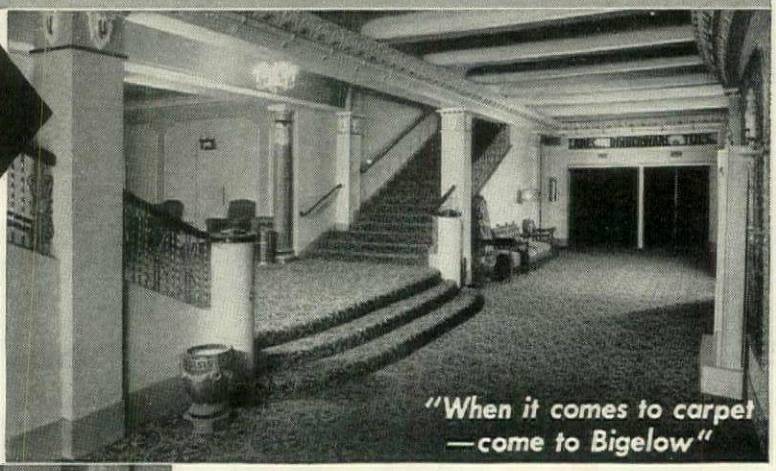
Dependable Products Since 1873

IN CANADA: THE PHILIP CAREY COMPANY, LTD. Office and Factory: LENNOXVILLE, P. Q.

Check these Bigelow Carpet Counsel features for your after-the-war carpet buying

THE RIGHT CARPET FOR THE RIGHT TRAFFIC AREAS

Theater entrance carpet has to take it. The owners of the Fairfax Theater in Oakland, California, wanted carpet that would look well and wear long. They got it from Bigelow Carpet Counsel in a special Bigelow Wilton Carpet.



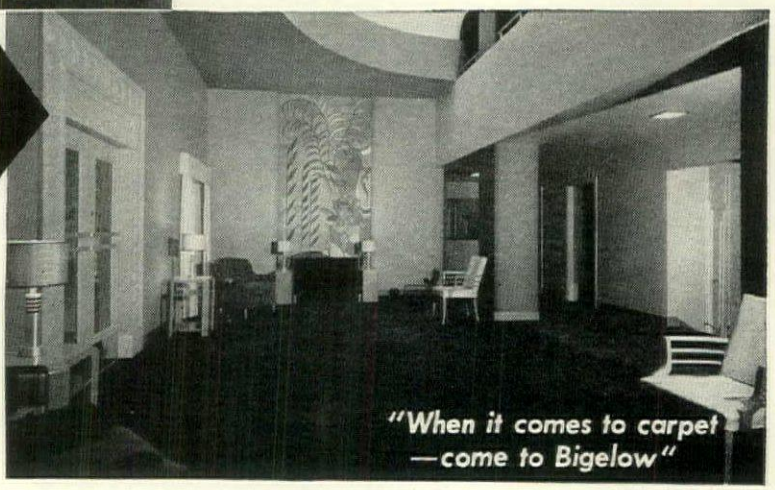


COLORS AND PATTERNS FOR EVERY TYPE OF ROOM

Long narrow halls or large bare lobbies can be made warm and inviting. It's all a matter of the right design and color. Bigelow Carpet Counsel, after the war, will again give you expert advice.

NO EXTRA COST PER SQUARE YARD

In such installations as the Embassy Hotel in Chicago, expert laying of carpet around posts and in corners saved carpet waste. When Bigelow looms again weave contract carpet, Carpet Counsel will eliminate time-and-money-wasting guesswork.

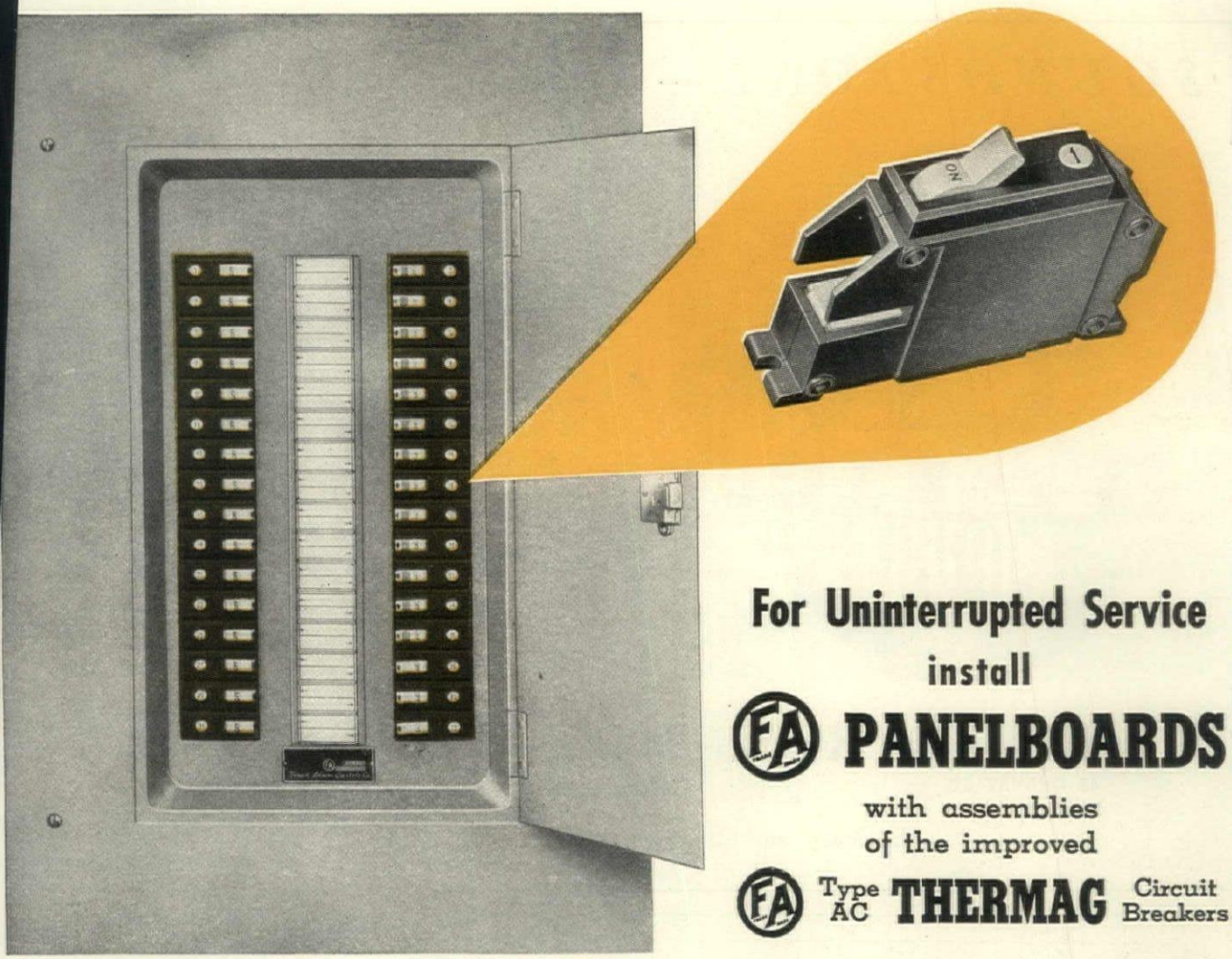


BUY WAR BONDS

RUGS & CARPETS BY THE BIGELOW WEAVERS Woven on Power Looms in U.S.A.

BIGELOW-SANFORD CARPET CO., Inc.

140 MADISON AVENUE, NEW YORK 16, N. Y.



For Uninterrupted Service install

(FA) PANELBOARDS

with assemblies of the improved

(FA) Type AC **THERMAG** Circuit Breakers

The Safety Panelboard above is Catalog No. (FA) NAC1B32-3L20 It contains 32 (FA) Type AC Thermag Circuit Breakers, and 200 ampere 3 wire main connection. An enlarged view of the individual Circuit Breaker is shown at the right.

They not only provide full protection against short circuits and dangerous overloads, *but prevent unnecessary interruptions in service* due to momentary or slight overloads.

The combination of the time-tried THERmal trip with the new MAGnetic trip, in the individual circuit breakers, assures this double protection. On harmless, momentary overload the time lag characteristics of the thermal element prevent interruption of service, but trip on sustained, harmful overload. On short circuit, the magnetic element causes *faster* tripping.

When tripped, the handle of the single pole breaker automatically returns to the OFF position, thus indicating the circuit affected. On the double pole breaker, a red signal button is protruded from the face of the breaker on which the trouble has occurred.

(FA) PANELBOARDS—THERMAG EQUIPPED

are made in Standard Type, Narrow Column Type, and Dust-tight Type construction. They are available with from 4 to 42 circuits, for either flush or surface mounting . . . Capacities: 50 amperes or less, 120 volts AC, single or double pole, individual trip . . . Approved by Underwriters' Laboratories, Inc.

Installation and connection are facilitated by new and improved (FA) Pressure Connectors. Ample knockouts are provided in the steel boxes. Fronts are bonderited, to prevent rusting, and finished in pearl gray lacquer.

Write for BULLETIN 69

Especially prepared for the use of Architects, Engineers and Contractors, it contains a mine of useable information on panelboards and cabinets. It is a real aid in planning and engineering electric distribution installations for light, heat and power. Write for your copy . . . Frank Adam Electric Co., St. Louis, Mo.

EST. 1891 THE SIGN OF A (FA) BETTER JOB

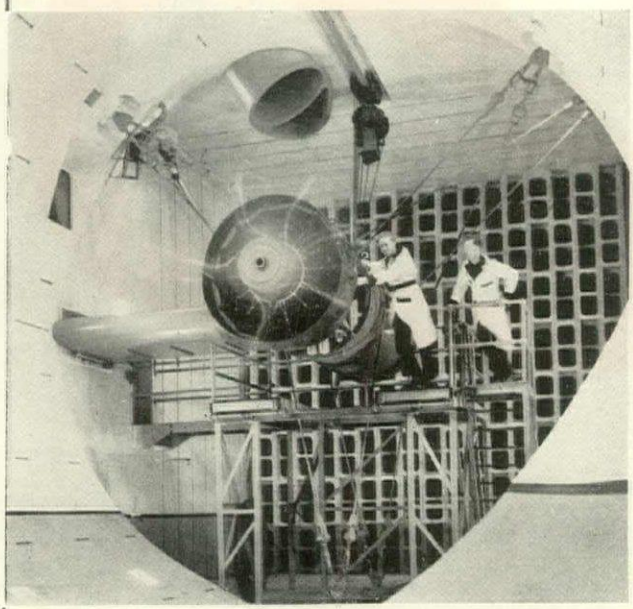
Frank Adam

ELECTRICAL PRODUCTS

for War Industry

FRANK ADAM ELECTRIC CO.
ST. LOUIS, MO. U.S.A.

SOUNDSTONE—NOISE CONTROL



SOUNDSTONE

as shown in the background, has been used to quiet the noises in the Test Cells at the Chicago Dodge Plant, Division of Chrysler Corporation, as well as almost every Engine and Propeller Plant including the U. S. Army, Navy and Marine Corp in the U. S. A.

Fireproof
Maintenance Proof and Efficient

INDUSTRIAL HOMESTEAD SOUND CONTROL

45 GRANBY ST.
HARTFORD, CONN.

8 SO. MICHIGAN AVE.
CHICAGO, ILL.

Engineers and Contractors for Sound Insulations

The Only One in the World



THIS Parsons Pureaire Kitchen will perform every kitchen duty, including refrigeration and storage. But it differs from kitchens of the past in two highly important ways:—

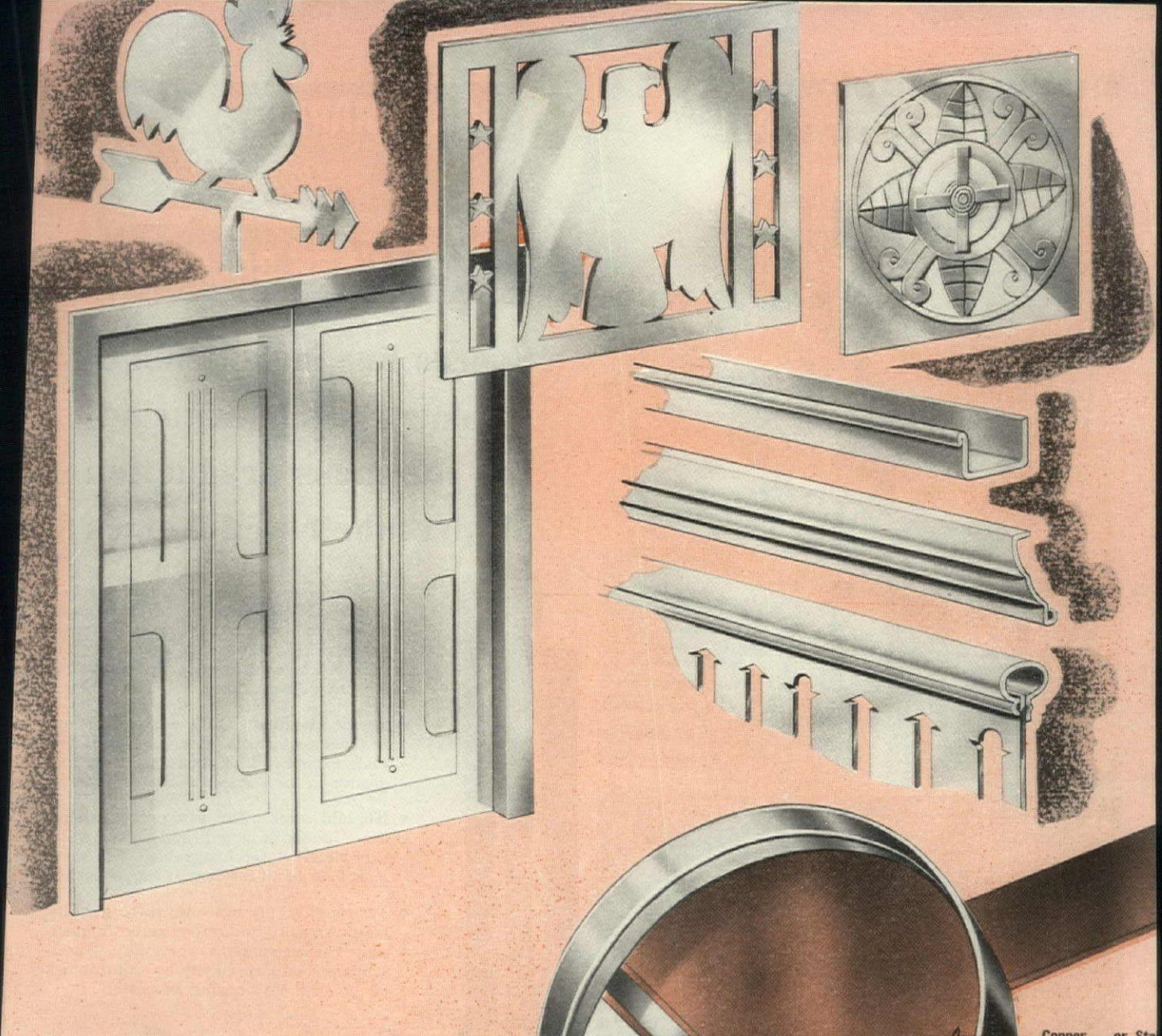
1—Pureaire takes up only 8 sq. ft. of floor space.

2—And Pureaire is the only home kitchen in the world that allows no heat or odor to escape into the room.

Ponder how this proved equipment—thousands in successful use—can revolutionize your post war plans for ultra-small homes, apartments and remodeling. But remember—none for sale till Victory.

TRAVERSE BAY MFG. CO.
(Affiliated with The Parsons Co.)
15000 Oakland • Detroit, Mich.

PARSONS *Pureaire* KITCHENS



Copper . . . or Sta
less . . . or Nickel
Brass, Bronze
Silver . . . one side
both sides . . . a
thickness desire

Tomorrow

PROGRESS OF REVOLUTIONARY DEGREE

IN ARCHITECTURAL TRIM

WITH

SuVeneer

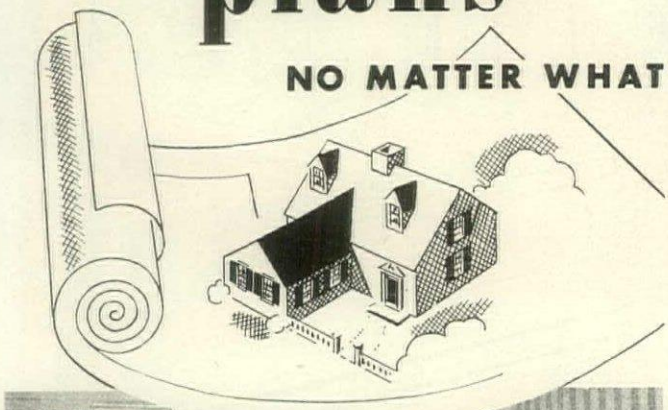
CLAD METAL

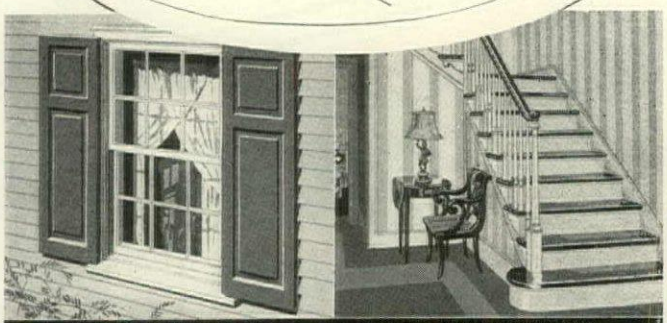
TODAY, the entire production of SuVeneer Clad Metal is devoted to war time applications such as bullet jackets of gilding metal covered steel, which save tremendous quantities of copper every month. ¶ **TOMORROW,** this exclusive Superior development will offer many stimulating possibilities to the design engineer. Produced in strip form, with controlled thicknesses of clad metal (copper, silver, stainless steel or other alloys) on one or both sides,—SuVeneer Clad Metal may be stamped, spun, formed or shaped by any of customary methods.

Would you like additional facts for consideration in your post-war planning?

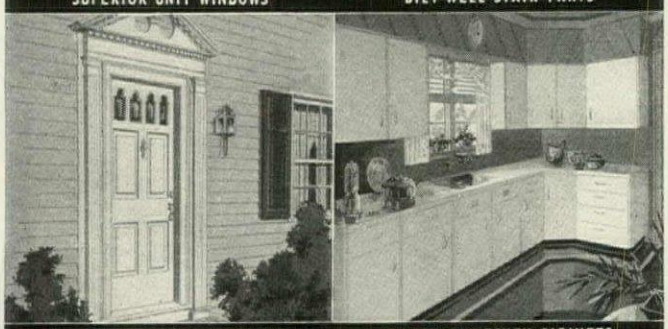
SUPERIOR STEEL CORPORATION · Carnegie, Pennsylvania

BILT-WELL WOODWORK
WILL FIT YOUR
plans
NO MATTER WHAT





SUPERIOR UNIT WINDOWS | BILT-WELL STAIR PARTS



COLONIAL FRONT ENTRANCES | NU-STYLE KITCHEN CABINETS

Tomorrow, when America's architects again put their carefully nurtured plans to work, Bilt-Well designers and craftsmen will likewise be ready with the finest in woodwork . . . ready to offer the knowledge and skill acquired during 77 years of woodworking experience.

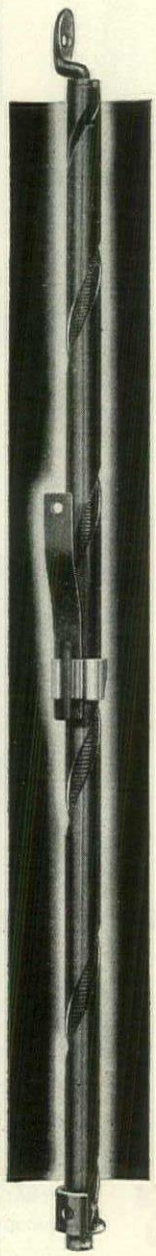
Because of priorities on war essential materials, we are unprepared at this time to present the complete Bilt-Well line, but we are happy to care for inquiries on units that remain available for war housing, remodeling and repairs.

CARR, ADAMS & COLLIER CO.
Dubuque, Iowa

BILT WELL WOOD WORK
REG U S PAT OFF

GRAND RAPIDS *Invizible* SASH BALANCE

Speeds line installation of window assemblies including the mass production of prefabricated homes



- No tapes or cables or exposed tubes. Entire sash balance moves with sash. Always invizible regardless of window position. No interference with neat paint job. No screws or trim to remove for tension adjustment.
- Easily installed. Only 6 simple steps. Frames require no nailing. No cuts in sash, except full height rounded bottom groove in sash stiles.
- No odd sizes. The same size balance used for both upper and lower sash. Completely interchangeable. Ten sizes meet 95% of all residential requirements.
- Thoroughly proved and fully guaranteed. Amazingly durable, smooth, quiet, easy and dependable operation. Thousands of sets endorsed by contractors of government housing projects.

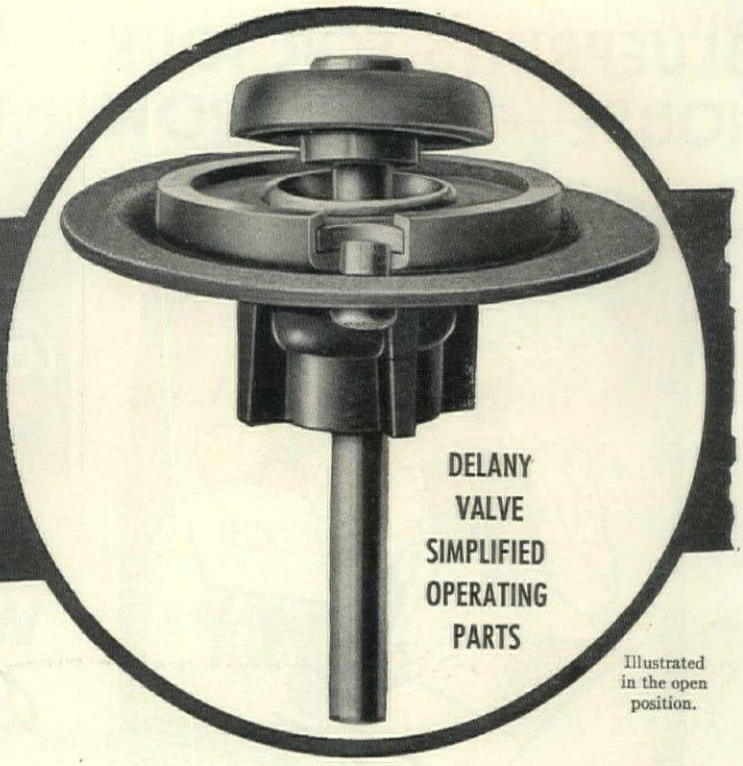
Engineering Service

To assist manufacturers of window assemblies and of prefabricated homes with the speedy installation of window sash and sash hardware on line production, Grand Rapids Hardware Company offers an engineering service right on the spot — in the person of one of its personnel especially trained in mass production schedules. This service is on a par with the excellence of the Grand Rapids Invizible Sash Balance, and will surely take the kinks out of any problem encountered in connection with the proper and rapid installation of satisfactory and enduring window assemblies. Manufacturers in or entering this field should investigate before completing their plans.

WRITE
WIRE
PHONE OR CALL

GRAND RAPIDS HARDWARE COMPANY
GRAND RAPIDS • • MICHIGAN

ITS SIMPLICITY is your assurance of EFFICIENCY



Illustrated in the open position.

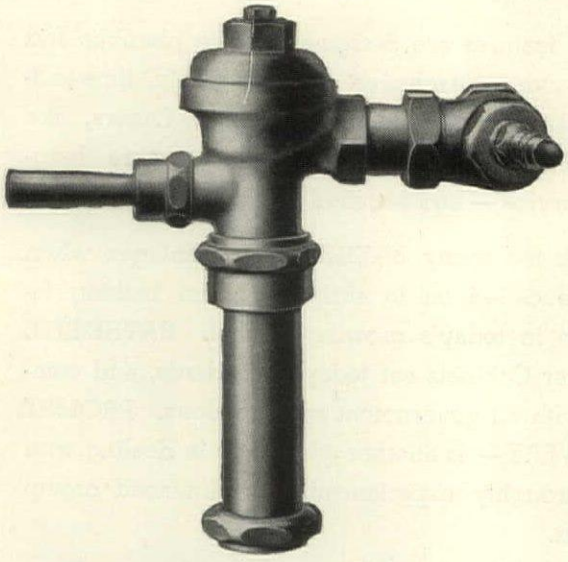
SIMPLICITY is vital in time of war—less material—less assembly—less maintenance.

The six SIMPLE operating parts illustrated above do the work of upwards of a dozen in the average valve.

The SIMPLICITY of the Coyne & Delany Flush Valve was readily recognized and developed an instant acceptance in all types of war construction.

The SIMPLICITY of the changes made in the Victory model and from tests of the materials substituted, we are convinced that we have added to the high efficient performance record of the Coyne & Delany peacetime valve.

This SIMPLICITY concretely has lowered the operation cost on all projects where our valves are installed as all non-critical parts are interchangeable with the previous essential metal parts.



Victory Model DELANY FLUSH VALVE equipped with No. 50 DELANY VACUUM BREAKER

We will be pleased to send you Booklet ‡D-11 giving complete information.

SINCE 1879

Coyne & Delany Co.

BROOKLYN N.Y.

BLUEPRINTS FOR YOUR HOUSE of TOMORROW



YOU MAY HAVE FIREPROOF FURNITURE!

Chemical fireproofing of upholstery fabrics will be a definite safety habit in your post-war home.

BUT — *Your Heating Plant will be* KOVEN WATERFILM

For perfection in heating and economy of operation, KOVEN WATERFILM BOILER is the choice of leading architects and builders. Its modern design and patented construction provide you with quick, sustained, even room temperature, and a plentiful supply of domestic hot water.

KOVEN WATERFILM, the fastest steaming boiler on the market, is manufactured in a variety of models for the small or large home, apartment house, or factory building.

KOVEN WATERFILM BOILER, made especially for automatic firing with oil, stoker, or gas, offers you the latest in scientific heating comfort. It is designed to give you the most for your heating dollar, today—or in your home of tomorrow.



KOVEN WATERFILM BOILER-BURNER UNIT

WATERFILM BOILERS, Inc.
154 OGDEN AVENUE JERSEY CITY, N. J.
PLANTS: JERSEY CITY, N. J. • DOVER, N. J.



You Buy Right . . . When You Buy *Bathe-Rite*

Compare BATHE-RITE Shower Cabinet features! You'll quickly see obvious superiority in quality that works to your own and your customers' benefit . . . superiority proven in thousands of installations — building on a reputation already established through many years pioneering in prefabricated shower cabinets.

Some features are designed for the plumber and contractor — exclusive quick-assembly, time-and-labor-saving features, for instance. Others, like the STEEL-FRAMED construction, assure long-life service — and satisfied customers.

Check the many BATHE-RITE advantages when you're called on to supply modern bathing facilities in today's growing market. BATHE-RITE Shower Cabinets set today's standards, and comply with all government specifications. PROMPT DELIVERY — is another advantage in dealing with a thoroughly experienced, well financed organization.

WRITE OR WIRE FOR DETAILS. Give name of project and quantity required if possible.

QUALITY BUILT BY *Bathe-Rite*

Bathe-Rite DIVISION
Milwaukee Stamping Company
827-S South 72nd Street
Milwaukee 14, Wisconsin

After the WAR TIDE - - *- - the* BUYING TIDE







WHEN the tremendous tide of home building begins to rise — it may be sooner and stronger than we think — foresighted building contractors and architects will have their plans well laid for meeting the needs of their market and for securing the necessary building materials.

Youngstown Pressed Steel realizes the value of foresightedness from both the manufacturer's and the buyers' standpoint and, through their YPS dealers, will be ready to supply the builder with modern, time-tested Youngstown Kitchens and Cabinet Sinks that make such complete, efficient, trudgery-free installations.

While the entire production department of Youngstown Pressed Steel is completely occupied with war materials, the Post-War Planning Committee is busy preparing for the responsibilities of peace — designing improvements for Youngstown Kitchens to be incorporated into the production schedule as rapidly as possible without delaying delivery.

Youngstown Kitchens

YOUNGSTOWN PRESSED STEEL DIVISION

MULLINS MANUFACTURING CORP. • WARREN, OHIO



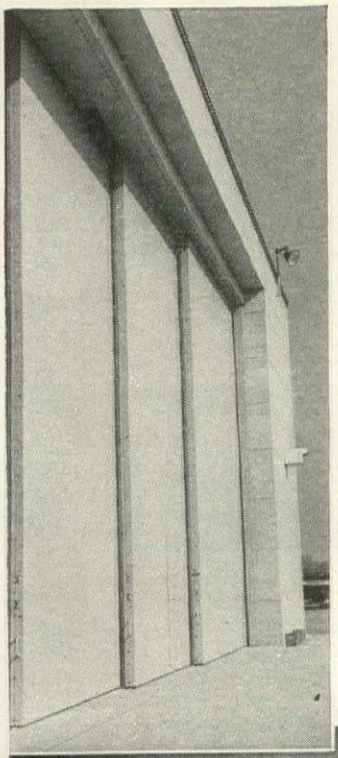
IT'S OUR WAR • LET'S FIGHT IT NOW

Youngstown "SERVICE UNIT" Kitchens will be worth waiting for.

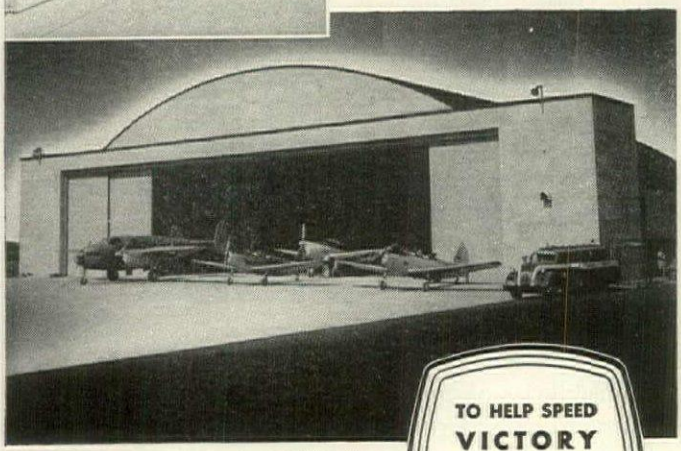
© 1943, Youngstown Pressed Steel Div. Mullins Mfg. Corp.

Another new use for Douglas Fir Plywood:

HANGAR DOORS



● Closing the huge portal of Fairchild Aircraft's new airplane hangar are 8 sliding doors built of Exterior-type Douglas Fir Plywood . . . a logical choice because this Miracle Wood combines light weight, large size, great strength and weather-proofness. Due to these advantages and many others, Douglas Fir Plywood is available now only for vital war work like this. But so much new data on Douglas Fir Plywood are being revealed by its world-wide war career that it will certainly be one of your most useful postwar construction materials!



● This new hangar serves the Fairchild Aircraft Division of Fairchild Engine and Airplane Corporation. Eight 17' x 27' Exterior-type Douglas Fir Plywood doors designed by Fairchild engineers cover the 136' x 27' portal.

TO HELP SPEED VICTORY
the Douglas Fir Plywood Industry is devoting its entire capacity to war production. We know this program has your approval.

DOUGLAS FIR PLYWOOD

Real Lumber

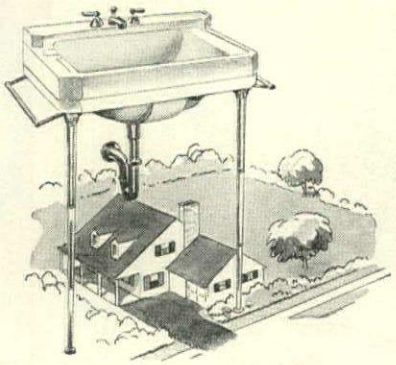
MADE LARGER, LIGHTER
SPLIT-PROOF
STRONGER

Do you know the many war jobs Douglas Fir Plywood is doing?

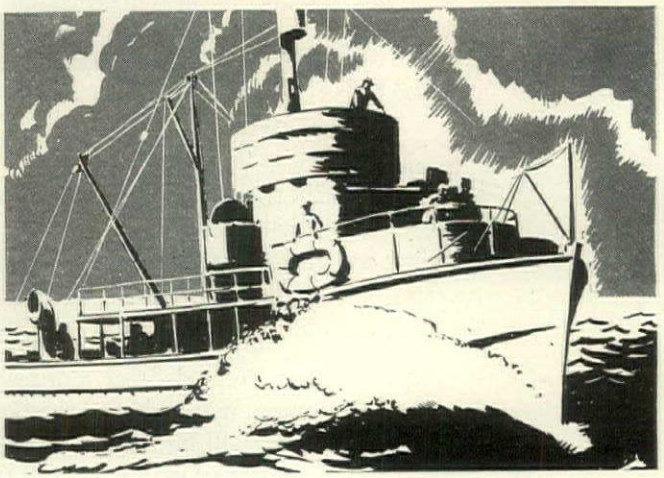
We'll gladly send you a folder showing scores of actual photographs of Douglas Fir Plywood at war. You'll enjoy looking at it. Write for your free copy today. Douglas Fir Plywood Association, Tacoma Bldg., Tacoma 2, Wash.

FROM

Wash-Bowls



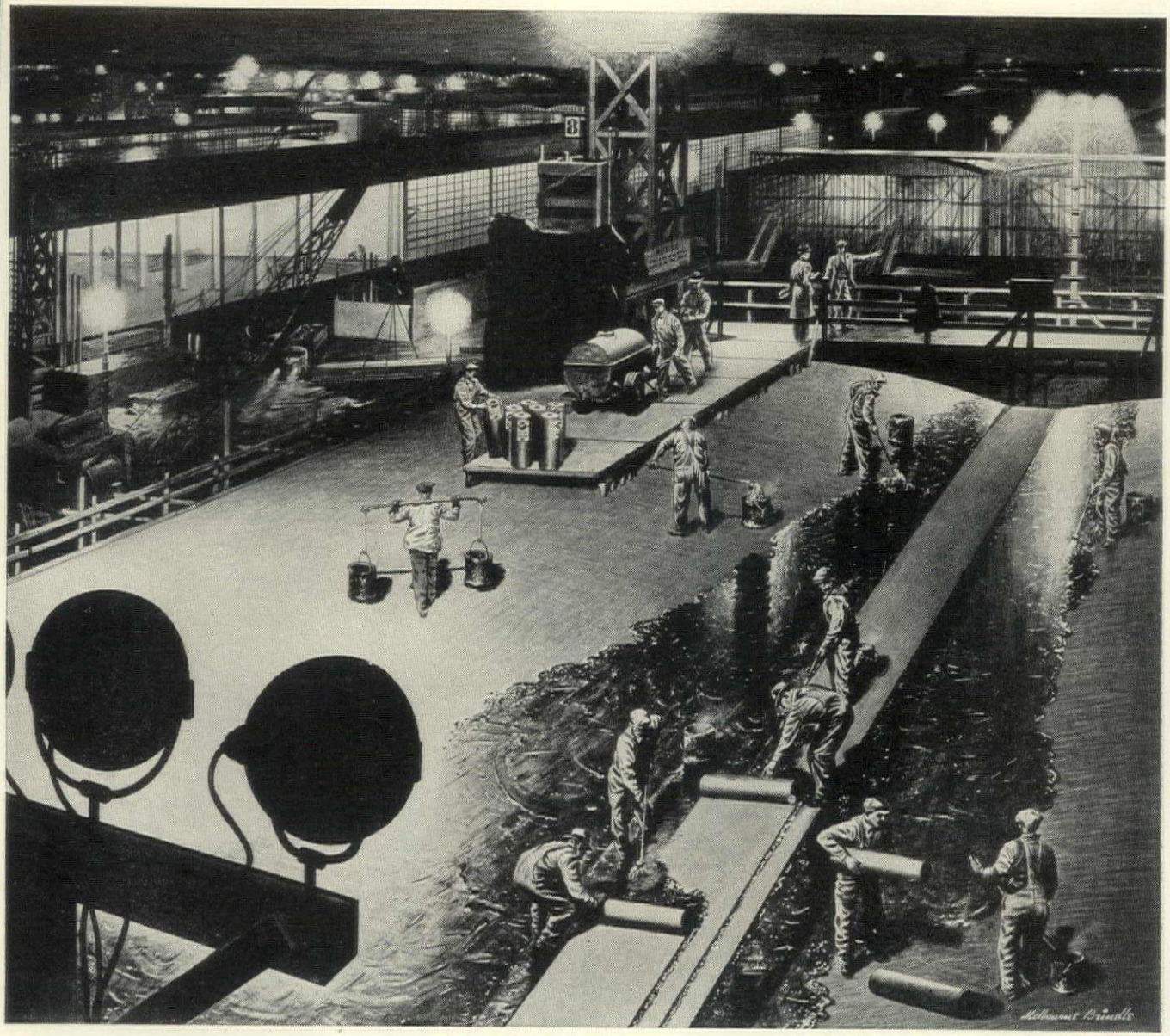
to War-Boats!



The peace-time products of your craftsmanship—and ours—must wait for a better day before we can all go ahead with them as we want to do. Meanwhile, there's work calling for the engineering and technical skills that have made the name Case a synonym for lifetime performance and good design in plumbing fixtures. We're doing this work, hastening in every way we can the end of war. Case plumbing fixtures, hot water systems and special metal products in hundreds of war and merchant ships, as well as in shore installations, are serving and safeguarding the health of our fighting men. W. A. Case & Son Mfg. Co., Buffalo 3. Founded 1853.

Case

PLUMBING FIXTURES
HOT WATER SYSTEMS



The under-cover story of America's war production

● They moved in at night—one of the fastest, most efficient mechanized forces the world has ever seen...Exactly 241 days later they moved out, and behind them, where a prairie had been before, was one of the greatest industrial units in the world—under the cover of a single roof.

Our part in the story of the building of America's vast production facilities includes the Barrett Roofs which today protect scores of wartime giants built for the Army and the Navy, for Ford, Curtiss-Wright, Glenn L. Martin, North American Aviation, United Aircraft and many others.

This tremendous record of current achievement, added to years of past experience, is of immediate and practical importance to architects and builders. With manpower limited and time so vital it is more important than ever to use materials that assure universally dependable performance. Barrett Pitch and Felt are non-critical and are available to meet wartime roofing requirements.

Protect yourself and your clients by specifying Barrett Specification Roofs. Get in touch with our nearest district office or call on your local Barrett Approved Roofer. He'll be glad to cooperate with you to take "under-cover" work off your client's mind . . . for the duration and for years to come.

THE BARRETT DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

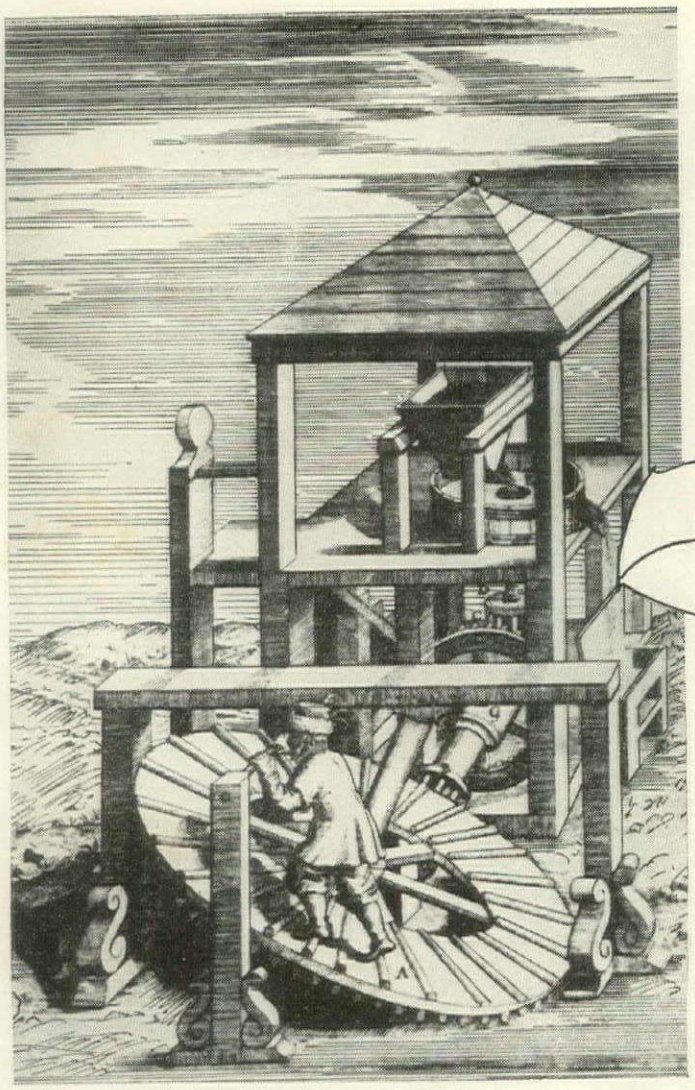
2800 So. Sacramento Avenue
Chicago 23, Ill.

Birmingham
Alabama

Barrett Specification* Roofs

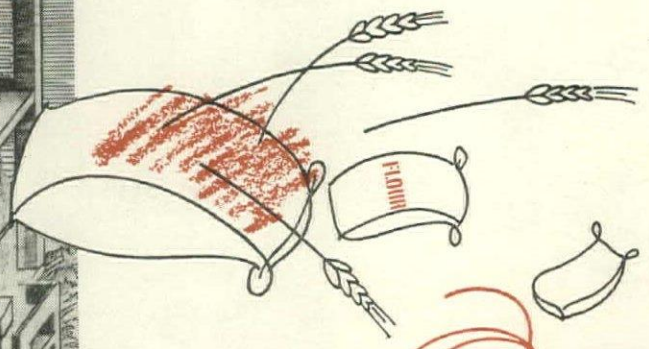
Barrett Specification* Roofs . . . Barrett Built-Up Roofs and Waterproofings . . . Shingles and Sidings . . . Roll Roofings . . . Rock Wool Insulation . . . Roof Coatings and Protective Products

*Trade Mark Reg. U. S. Pat. Off.



BETTMANN ARCHIVE

DOODLED IN THE MIDDLE AGES.
Once labor was so cheap a man could design a foot-powered mill like this — without being laughed at. But the dreamer-upper of this low-gear nightmare never pocketed royalties on it, for (like thousands of other bright-ideas-on-drafting-boards) it never got built.



Are you Doodling or planning for that building boom?

A QUARTER CENTURY ago all you people were expecting a boom in industrial building.

America's war plants were running full blast—and new products, new ways of processing, new ideas in fabrication were making old plants old hat. "Once peace comes," said the building industry, "there will be a mad rush to build and rebuild all through American industry."

Well—here we are again. And builders are dreaming once more of a postwar industrial building boom.

But will it happen?

Maybe, but booms don't grow out of needs and dreams. *If you want an industrial building boom, you'll have to help set it off.* You'll have to show the executives who need new plants that new plants can be produced so efficiently and economically *they can't afford not to build them!*

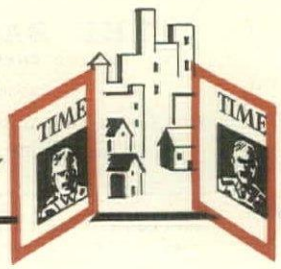
And the most economical and effective way to point this out and drive it home is through the pages of TIME—the first-choice magazine of business executives, plant owners and managers—the magazine they turn to for information to help them think ahead and plan ahead and see the shape of things to come—the magazine they believe in and vote their favorite over all others they read.*

What's more, TIME is the magazine in which business and industry prefer to tell their *own* product stories!

*Among these people are executives and engineers, Government officials, mayors, bankers, architects, and 22 other groups of leaders—all of whom recently voted "TIME is America's most important magazine."

TIME

THE GATEWAY



TO THE BUILDING MARKET



Put through a call to . . .

INNOVATIONS in electrical construction are on the increase. In industrial plants, commercial buildings, private homes, new ways of doing things *electrically* call for more power, more circuits, more widespread use of newly developed equipment.

IF YOURS is the modern viewpoint – if you are keeping up-to-the-minute as to electrical products and practices – there's probably still one problem that has you completely "at sea": HOW FAR CAN YOU GO IN ELECTRICAL PIONEERING WITHOUT COMING INTO CONFLICT WITH LOCAL ORDINANCES, RULES OR UNDERSTANDINGS? Will that layout that worked in Detroit be permitted in Smithville, or vice versa? Will it meet code requirements?

THE ONE SURE WAY to get an authentic answer is to talk with JOHN WATTS, a qualified electrical contractor with *experience* in this particular section or community. He'll know the rules and the interpretation that's given them. He'll be aware of every local condition, starting with the weather, that may affect the choice of equipment or installation techniques.

CALL THE RIGHT KIND of an electrical contractor, and you'll find him well informed and fully cooperative, even though the job you're planning is still in the tentative stages. All over the country, it's that kind of contractor that does his buying . . . via GRAYBAR.

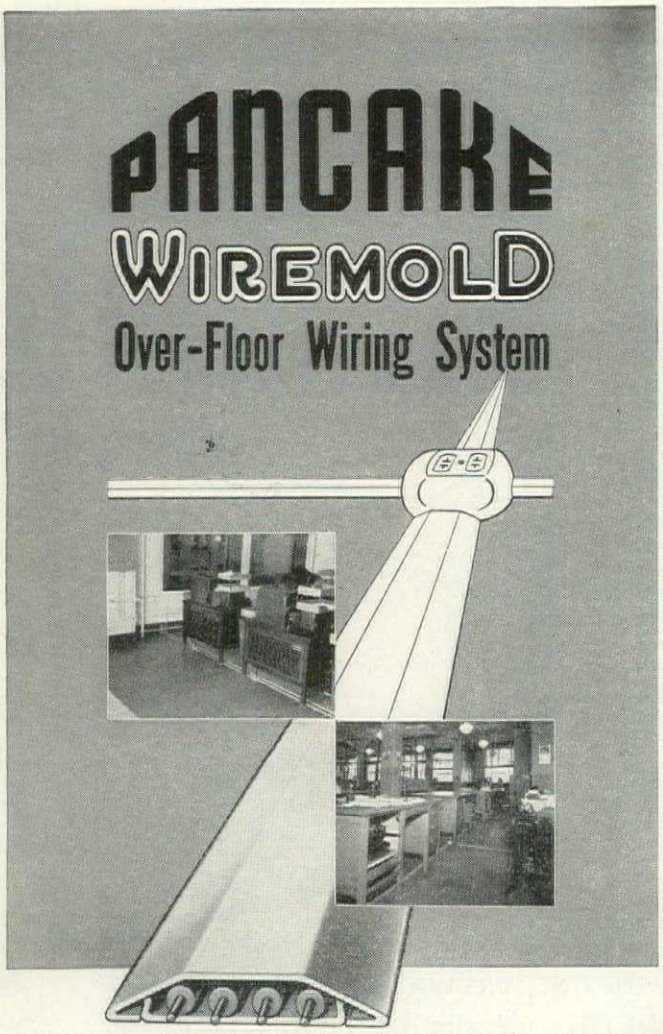
Give Your Electrical Work to "John Watts"
a qualified electrical contractor—heading a well-established firm with the trained organization, tools and know-how to give you specialized assistance on wiring, lighting, signaling, power supply, electronics. From offices and warehouses in over 80 cities, GRAYBAR serves a nation of JOHN WATTS, helping them to help you by supplying the newest and best in electrical materials.

GraybaR

Everything Electrical . . . . THAT IT TAKES TO WIN!

Executive Offices: Graybar Building, New York 17, N. Y.

PANCAKE WIREMOLD
Over-Floor Wiring System



A FUNCTIONAL WIRING SYSTEM DESIGNED TO MEET A CONSTANT NEED

● Pancake Wiremold is the most logical and economical way to take care of extension or relocation of electric wiring to desks, machines, etc., in factory working areas and offices that are "cramped for space".

This safe, simple, easily installed Overfloor Wiring System solves problems of this kind with minimum use of critical materials . . . without channeling of floors or breaking into plaster of walls . . . without, in most cases, disturbing people at work. Pancake is neat, unobtrusive in appearance . . . "flat as a pancake; strong as a bridge"; trip-proof and crush-proof . . . with fittings for telephone, light or power service connections and for interconnections to existing wiring or other Wiremold Raceways.

Available from stock on suitable priority for essential industry needs. Conforms to Federal Specification W-R-32. Listed by U. L.

Special engineering data sheet service and bulletins on Wiremold products are available to architects planning present or future projects. Write to The Wiremold Company, Hartford 10, Conn.

WIREMOLD

IS HELPING AMERICA PRODUCE FOR *WAR* AND PLAN FOR *PEACE!*

"HELPING HAND" LITERATURE FOR ARCHITECTS

- ☐ Bulletin, "Wiremold Industrial System-Wiring Speeds War Production".
- ☐ Engineering Data Sheets, Plugmold Multi-Outlet Wiring Systems.
- ☐ Wiremold Catalog and Wiring Guide
- ☐ Engineering Data Sheets No. "3000" System Wiring for Industrial plants.
- ☐ "Pancake" Wiremold Overfloor Wiring System for Office and factory.

CHECK and return with your name and address

IT'S SMART— AND THRIFTY— TO USE THE BEST PAINT



LONGER-LASTING! Cabot's Collopakes give greater protection, longer life because they are colloidal paints. By a patented process, pigments are divided into sub-microscopic fineness and unseparately united with wear-resistant oils.

DOUBLY BEAUTIUL! Cabot's Collopakes go on smoothly — show no brush marks — give a richer, fresher color effect. Almost fade-resistant, too!

FREE "White Book" interesting colorful, factual. Filled with prize-winning houses painted with Cabot's Old Virginia White, Double White and Gloss Collopakes. Write for your copy. Samuel Cabot, Inc., 1276 Oliver Bldg., Boston, Mass.



Cabot's

DOUBLE WHITE AND GLOSS COLLOPAKES

NOW . . . *and* AFTER

It takes an efficient, well trained organization to overcome the multiplicity of problems confronting wartime construction . . . The McDonough Construction Company is such an organization.

If you have a tough job, get in touch with us . . . . whether it's a wartime project or peace-time construction . . . whatever the type, we can handle it!

Write, wire or phone for consultation.

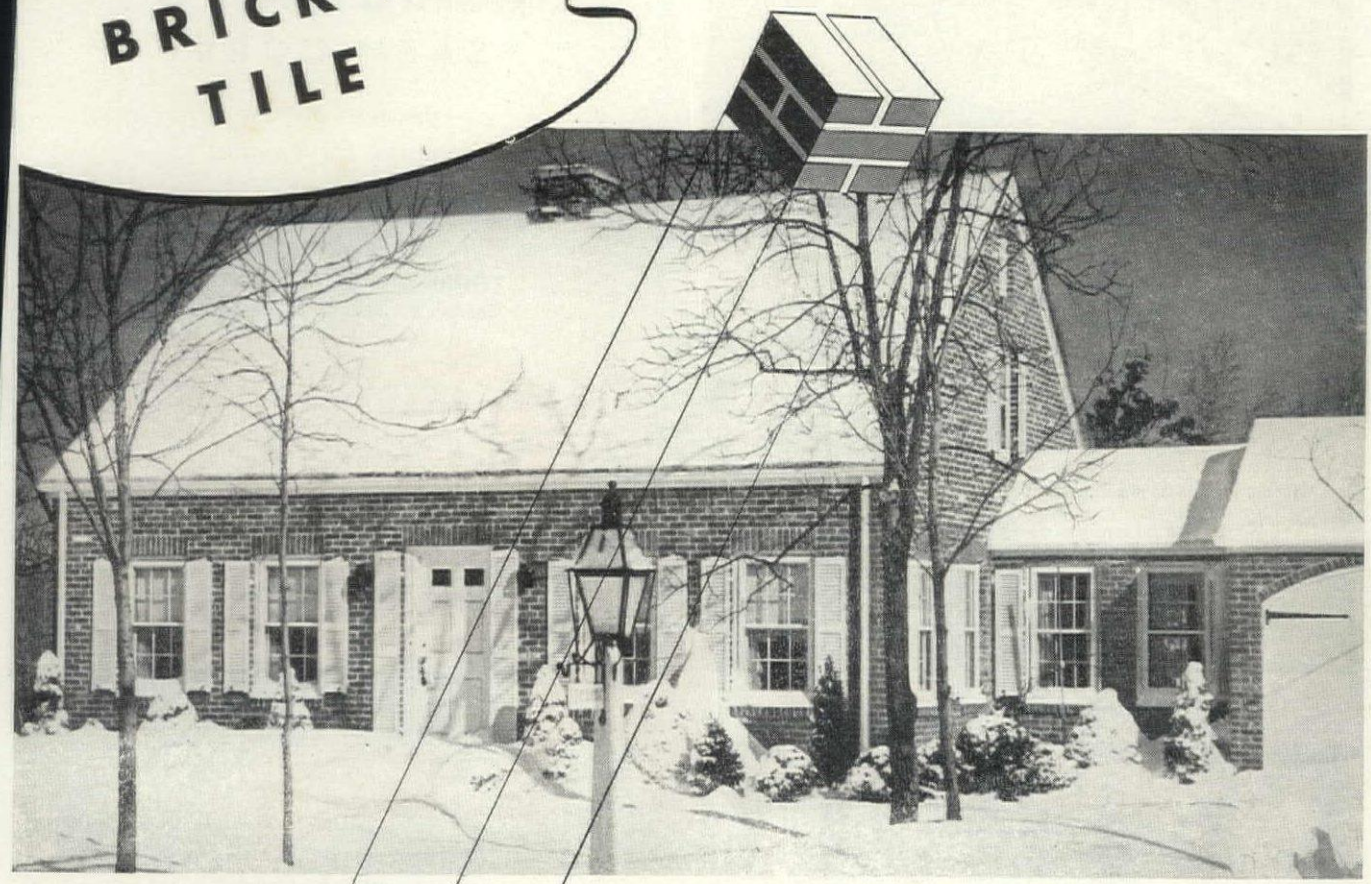
McDONOUGH CONSTRUCTION CO.

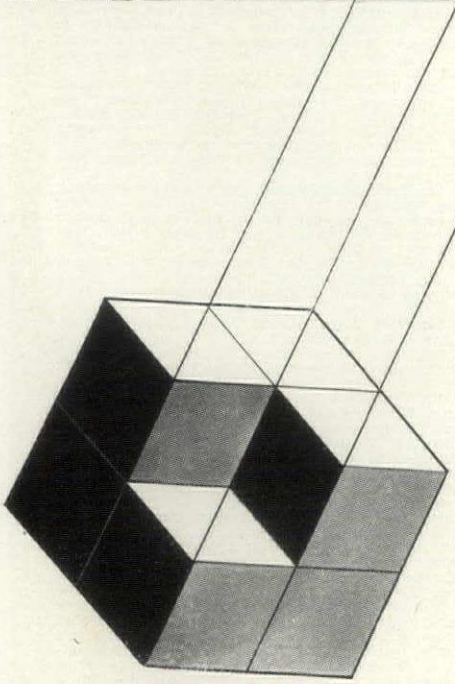
PARKERSBURG, W. VA.

Operations — **West Virginia . . . Texas . . . Ohio Louisiana . . . Pennsylvania . . . Virginia**

After the war . . . it will be built of MODULAR-DESIGNED BRICK AND TILE

America's oldest industry is the first to accept, and produce for, this simplified and economical method of building





Tomorrow — many homes, apartments, schools, churches, commercial and public buildings will be built of brick and tile.

And, whether their architecture be traditional or modern, these structures will possess the same beauty and dignity that have always characterized brick and tile.

Yet these buildings of tomorrow will *not* be erected as they have been in the past.

They will be built of modular-designed brick and tile.

Manufacturers of clay products throughout the country have accepted the 4-inch module so that architects can simplify design, save endless hours of drafting and detailing, and yet be free to exercise flexibility and versatility in design.

They have accepted it so that builders can simplify estimating, develop a uniform building practice, and lower cost of field erection.

These manufacturers believe that, in accepting this modular unit, they are making a genuine contribution to the simplification and economy of building.

If you are one of the progressive architects who plan to design in module, we, as an industry, are ready to serve you now as we have in the past. Write for our new booklet, "The ABC of Modular Masonry." Structural Clay Products Institute, 1756 K Street, N.W., Washington 6, D.C.

BRICK AND TILE

5 Reasons Why We Measure Our Valuable Stored Liquids With LIQUIDOMETER Tank Gauges

"THEY'RE ALWAYS DEPENDABLE"



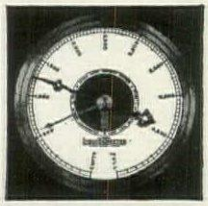
1 100% automatic.

2 No pumps, valves, or auxiliary units needed to read them.

3 Models available so that readings can be taken remotely from or directly at the tank.

4 Accuracy unaffected by specific gravity of tank liquid.

5 Approved for gauging hazardous liquids by Underwriters' Laboratories and other similar groups.



Write for complete details

THE LIQUIDOMETER CORP.

36-30 SKILLMAN AVE., LONG ISLAND CITY, N.Y.



REG. U. S. PAT. OFF.

SAMSON SPOT

SASH CORD

the most durable material for hanging windows

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WHERE THE NEED IS GREATEST
Samson Braided Cords Serve Best
Now and Always

SAMSON CORDAGE WORKS

BOSTON 10, MASS.

SAMSON SPOT SASH CORD



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DETROIT STOKERS

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DODGE

CHICAGO

PLANT

Division of

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DETROIT STOKER COMPANY

General Motors Building - Detroit, Michigan

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912 AND MARCH 3, 1933, OF THE ARCHITECTURAL FORUM, published monthly at Orange, Conn., for October 1, 1943.

State of New York } ss.
County of New York }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Ruth Goodhue, who, having been duly sworn according to law, deposes and says that she is the General Manager of THE ARCHITECTURAL FORUM and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editors, and general manager are: Publisher, Time Incorporated, Time & Life Building, Rockefeller Center, New York 20, N. Y.; Editor, Howard Myers, 19 West 44 Street, New York 18, N. Y.; Managing Editors, George Nelson and Henry Wright, 19 West 44 Street, New York 18, N. Y.; General Manager, Ruth Goodhue, 19 West 44 Street, New York 18, N. Y.

2. That the owner is: Time Incorporated, Time & Life Building, Rockefeller Center, New York 20, N. Y., that the names and addresses of stockholders owning or holding one per cent or more of total amount of stock are: Brown Brothers, Harriman & Co., 59 Wall Street, New York 5, N. Y.; Cobb & Co., c/o New York Trust Co., 100 Broadway, New York 5, N. Y.; William V. Griffin, 140 Cedar Street, New York 6, N. Y.; Louise H. Ingalls, 10725 East Blvd., Cleveland, Ohio; Irving Trust Company, as Trustees (Benefit of Elizabeth Busch Pool), 1 Wall Street, New York 5, N. Y.; Robert L. Johnson, Temple University, Philadelphia, Penna.; Margaret Zerbe Larsen, Time & Life Building, New York 20, N. Y.; Roy E. Larsen, Time & Life Building, New York 20, N. Y.; Henry R. Luce, Time & Life Building, New York 20, N. Y.; Marine Midland Trust Company, (Account of F. Du Sossoit Duke), 12 East 45th Street, New York 17, N. Y.; Samuel W. Meek, c/o H. A. Schafuss, 14 Wall Street, New York 5, N. Y.; J. P. Morgan & Co., Inc., (Account of Henry P. Davison), P. O. Box 1266, New York, N. Y.; New York Trust Company, (Account of Edith Hale Harkness), 100 Broadway, New York 5, N. Y.; New York Trust Company, (Account of William Hale Harkness), 100 Broadway, New York 5, N. Y.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders and security holders, if any contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders, who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by her.

(Signed) Ruth Goodhue,
General Manager.

Sworn to and subscribed before me this 28th day of September, 1943.
HERBERT H. BROWER,
Notary Public.

(My commission expires March 30, 1945)



PLAN NOW!

FOR *Postwar* AIR CONDITIONING

PRECISION manufacturing and processing, as well as employee comfort will be just as important after the war as it is now — probably more so, for competition will be keener. Now is the time to plan for the air conditioning installation you want. This will eliminate possibility of delay and will help you to quickly change back to peacetime production . . . Minneapolis-Honeywell engineers have developed many improvements which will benefit you. They will be glad to work with you, your architects, or your heating engineer on your postwar plans, without cost or obligation . . . Minneapolis-Honeywell Regulator Co., 2740 Fourth Avenue S., Minneapolis 8, Minnesota. Branches in 49 cities.

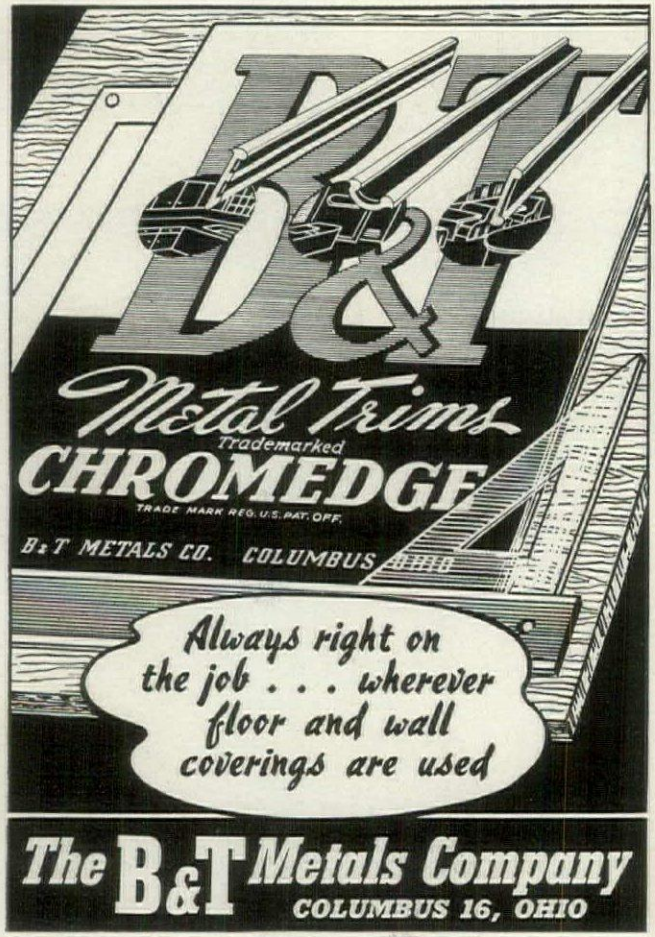
Buy More War Bonds!

MEMBER I.C.I.

INSTRUMENTS BY **BROWN** FOR INDUSTRY

MINNEAPOLIS-HONEYWELL

TEMPERATURE CONTROLS



The B&T Metals Company
COLUMBUS 16, OHIO



plan with modernfold in "tomorrow's" dream house

Today, new building must wait until the end of the war — but plans can be made. Include Modernfold in your plans. These "aristocrats" of doors are truly marvels of colorful, eye-catching beauty. Practical, too, these accordion-type doors eliminate swing area — present an effective and economical means of room division. They blend perfectly with their surroundings — are at home in any type of architectural setting. In your plans for 194X, don't forget Modernfold — for new building or modernization.

NEW CASTLE PRODUCTS
1613 I Street, New Castle, Indiana
424 Madison Avenue, New York City

Modernfold DOORS

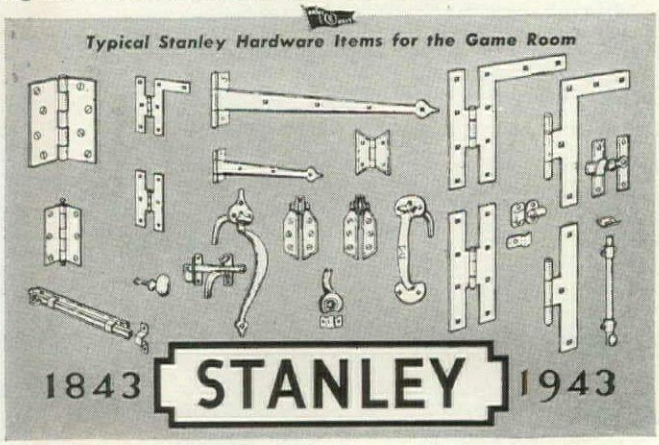
HARDWARE for the "After the Victory" GAME ROOM

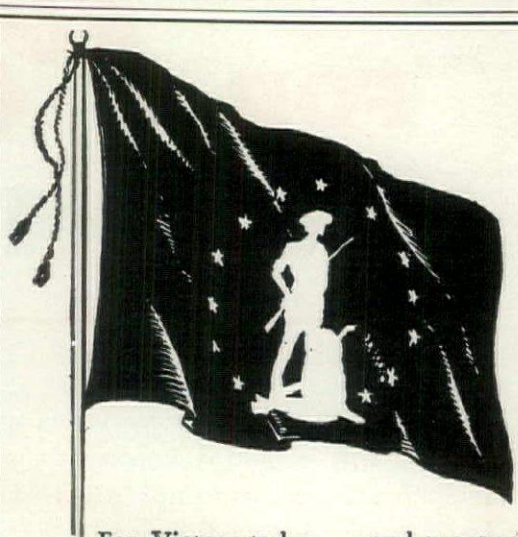
Since gas rationing changed the traveling American into a "stay-at-home" many people are studying their homes – finding improvements to make, or thinking of how they will build their new homes, once the war is over.

One of the rooms that will get careful consideration is the playroom. Here, home owners are inclined to give way to their originality. Pine paneling with built-in closets for games and sports equipment, benches with hinged tops to hold toys, cabinets for bar supplies, and other ingenious features will be developed by home-planners.

Whatever the hardware requirements of a post-war building are, STANLEY will be in a position to fill them.

Due to government restrictions on metals it is impossible to supply all civilian needs in hardware at the present time. We are certain that you and your cutomers understand why the present shortage exists, and realize that when our big war job is done you will have all the STANLEY hardware you need. The Stanley Works, New Britain Connecticut.





For Victory today . . . and prosperity *tomorrow,* keep the War Bond Pay-roll Savings Plan rolling in *your* firm. Get that flag flying now! Your State War Savings Staff Administrator will gladly explain how you may do so.

If your firm has not already installed the Pay-roll Savings Plan, *now is the time to do so.* For full details, plus samples of result-getting literature and promotional helps, write or wire: War Savings Staff, Section F, Treasury Department, 709 Twelfth Street NW., Washington, D. C.



The shell that plays ping pong inside a tank

HEAT Treating—the process of using controlled temperature to put the pierce into anti-tank gun shells, is gradually sounding the death knell of the once invincible weapon of war. The armor plate of the tank that once shed bullets like rain drops, is being drilled into destruction by modern shot. Not only is the armor being pierced, but as the projectile enters the tank it blunts its drilling nose. Then taking advantage of the very armor it has just entered, it strikes and restrikes inside walls, like a ping pong ball, as many as 500 times.

In many heat treating processes, Trane Equipment is being used to rapidly cool oils and liquids used in quenching. In so doing, Trane Products speed ordnance production and ultimate victory.

Today Trane Air Engineers are sending Trane Equipment to war on every war production front. They are utilizing heat, cold, air movement, moisture control—all the elements of weather itself to help win the battles of production.

Tomorrow these men and this equipment will again turn to peace, using the development of today for the comfort and better living of tomorrow.



TRANE

AIR

THE TRANE COMPANY LA CROSSE, WISCONSIN

TRANE COMPANY OF CANADA, LTD., TORONTO

AIR CONDITIONING · · HEAT TRANSFER · · AIR HANDLING EQUIPMENT

EVERY FENESTRA ADVERTISEMENT

...and here's why

There has been much talk about postwar planning. The public is aware of the need in general. But it's necessary to stimulate that awareness into *action.* And so Fenestra's advertising is devoted to the suggestion: "Start an Architect on a Plan Now." We are telling this message in:

NEWSWEEK
BETTER HOMES & GARDENS
AMERICAN SCHOOL BOARD JOURNAL
MODERN HOSPITAL
HOSPITAL PROGRESS
AMERICAN BUILDER
PRACTICAL BUILDER
BUILDING SUPPLY NEWS

Everyone in the building industry knows that *immediate* postwar employment for millions of fighting men and war plant workers depends upon plans made well ahead.

But planning for specific projects—the kind that can be counted on for postwar jobs—can't start with you, or with us. The starting action has got to come in the minds of prospective homeowners, school and hospital officials, and businessmen.

We hope that this advertising will direct work to your drawing boards—will help the building industry, America's No. 1 employer, get ready with blueprints, to provide millions of immediate postwar jobs.

DETROIT STEEL PRODUCTS COMPANY
Now Chiefly Engaged in War Goods Manufacture
Dept. AF-12, 2252 East Grand Boulevard, Detroit 11, Mich.
Pacific Coast Plant: Oakland, California

FEATURES THIS MESSAGE



It ake millions of jobs to keep this country
, right after the war. Not five years after,
hree. But *right after!*

Your boy who comes back from the Pacific
or Africa or Europe, your brother who works in
a war plant, and you yourself, won't want a long
painful waiting spell after the war.

So, isn't it up to each of us to do something
about those postwar jobs—NOW? There's one
way, at least, you can help.

America's No. 1 industrial employer—th
Building Industry—mus
of postwa
ning—for homes and hospitals
or schools and factories and housing
projects, etc.—can and should be done now.

You can help by getting your postwar dream
home on an architect's drawing board now.
Too, you can call the need for planning to the
attention of your school and hospital boards
and to your local, state and federal planning and
governing bodies. Urge them to use available
facilities of architects, engineers, contractors,
builders, realtors, financing agencies, and other
factors, for forward planning NOW.

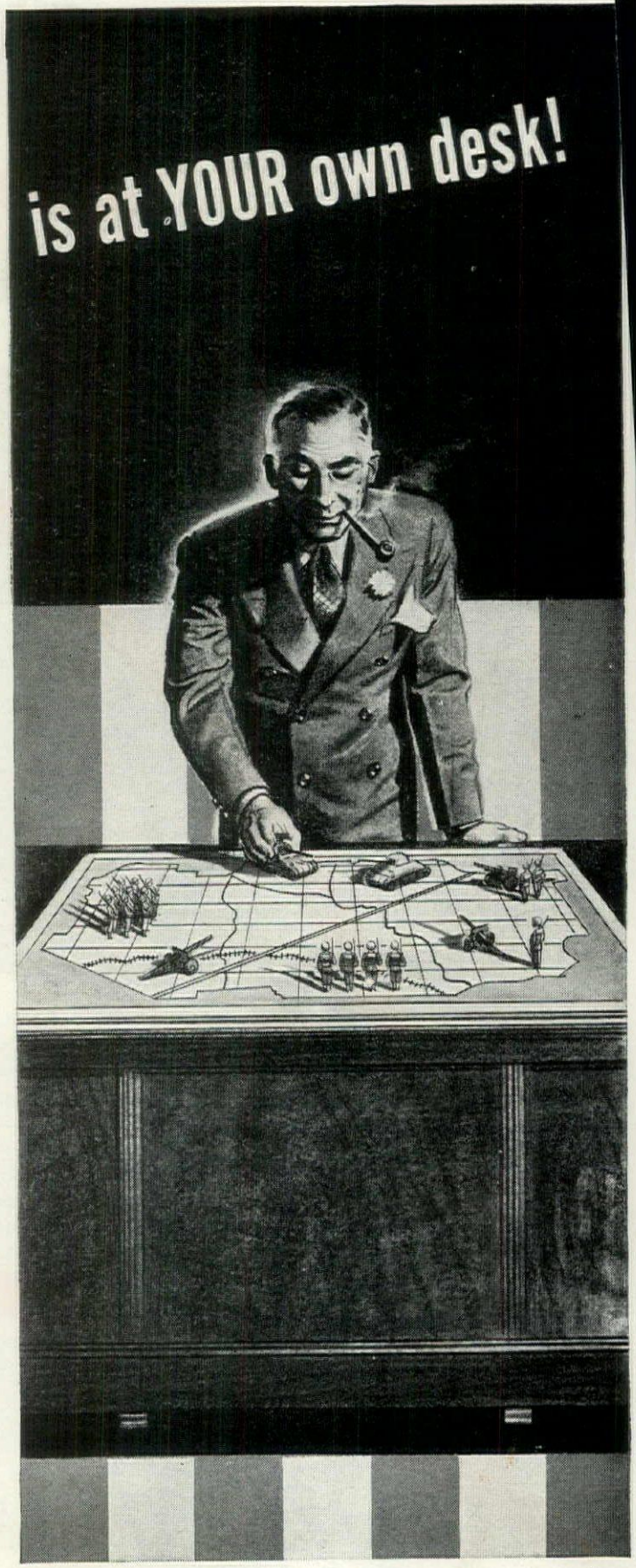
DETROIT STEEL PRODUCTS COMPA
Now Exclusively Engaged in War Goods Manufacture
Dept. NW-10 • 2270 East Grand Blvd. • Detroit 11, Mich.
Pacific Coast Plant at Oakland, California



Fenestra SUGGESTS

WIN DOORS • ROOF DECK • FLOOR DECK • METAL SIDING • AND OTHER BUILDING PRODU

for THIS battle, G.H.Q. is at YOUR own desk!



★ Here's how you—yes, YOU—can carry out a smashing "pincer movement" against the Axis. Swing in on one flank with increased production of war goods! Drive in on the other with redoubled purchases of War Bonds through your Pay-Roll Savings Plan!

You're an officer in both of these drives. Your personal leadership is equally vital to both. But have you followed the progress of your Pay-Roll Savings Plan as closely as you have your production?

Do you know about the new Treasury Department quotas for the current Pay-Roll Allotment Drive? *Quotas running about 50% above the former figures?* You see, these new quotas are based on the fact that the armed forces need more money than ever to win the war, while the average worker has more money than ever before to spend. Particularly so, on a *family income* basis—since in so many families several members are working, now.

Remember, the bond charts of today are the sales curves of tomorrow! Not only will these War Bonds implement our victory—they'll guard against inflation, and they'll furnish billions of dollars of purchasing power to help American business re-establish itself in the markets of peace.

So get this new family income plan working at once. Your local War Finance Committee will give you all the details of the new plan. Act today!



This advertisement prepared under the auspices of the War Advertising Council and the U. S. Treasury Department.

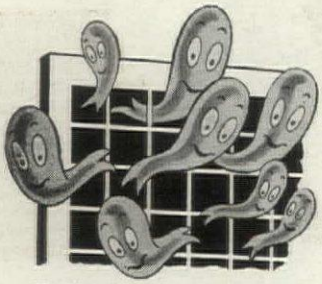
LET'S KEEP ON Backing the Attack!

This Space is a Contribution to America's All-Out War Effort by

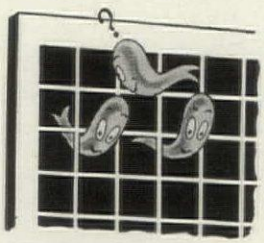
THE ARCHITECTURAL FORUM

HOW *PRECIPITRON** WORKS

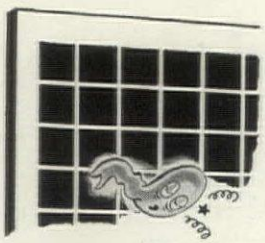
You get 90% CLEANER Air with ELECTRIC Air Cleaning



Uncleaned air contains dirt particles of various sizes.



Mechanical cleaners permit small particles, or about 10% of the dirt, to "escape."

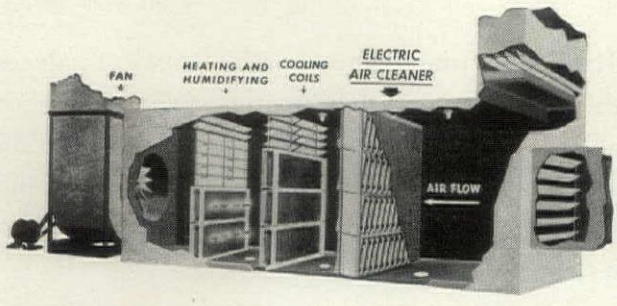


Precipitron removes the *small* particles, too; is 99½% efficient (based on weight tests).

Yes . . . 90% *cleaner* air than is provided by conventional air cleaners. For each ounce of dirt that "escapes" in a mechanical air cleaner, *less than 1/10 of an ounce* gets through the Precipitron. The reason for this is that the Precipitron, operating electrostatically, removes air-borne particles as small as 1/250,000ths of an inch in diameter.

Sealed within the ventilating duct so that all air must pass through it, the Precipitron operates silently, efficiently, with no more moving parts than a storage battery. At the front of the unit (or cell), two fine tungsten wires and three grounded rods create a strong electrostatic field. As each particle of dirt passes through this field, it receives a positive charge of electricity.

These charged particles are then carried by the air stream to *collector plates* located behind the electrostatic field. Here the dirt particles are quickly "grounded" on the oppositely charged plates. And here they stay . . . until the plates are washed down with water and the deposit flushed harmlessly down the drain.



Cross section of Precipitron installation in typical air conditioning duct.

Because Precipitron consistently removes more than 99½% of ALL air-borne dirt (measured by weight), it has given a new meaning to commercial and industrial air cleaning. For full information on Precipitron and its applications . . . for immediate use in vital war production . . . or postwar use in other fields . . . write Westinghouse Electric & Manufacturing Company, Edgewater Park, Cleveland, Ohio.

*Trade-mark registered in U. S. A.

Westinghouse Precipitron

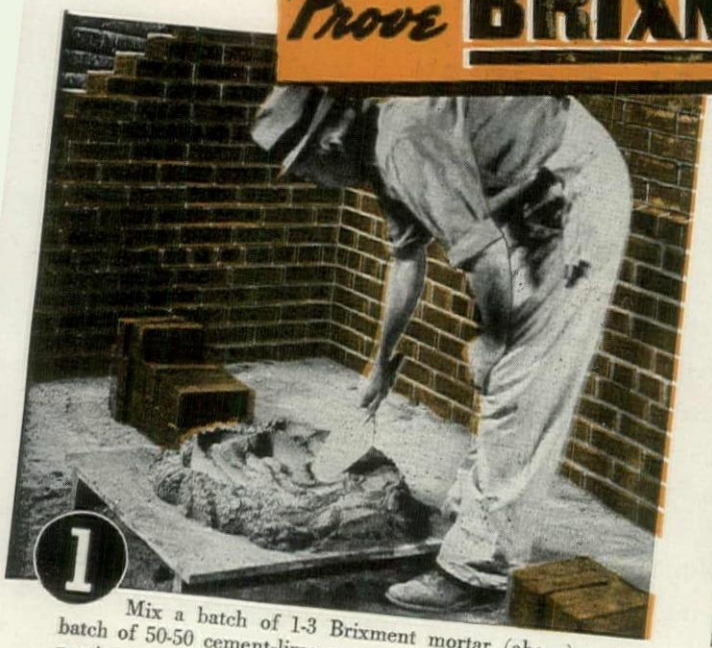
PLANTS IN 25 CITIES ○ OFFICES EVERYWHERE

Tune in on John Charles Thomas, NBC, Sundays, 2:30 p.m., E.W.T.

WESTINGHOUSE

Electronics at Work

MAKE THIS TEST – *Prove* BRIXMENT is BEST!



Mix a batch of 1-3 Brixment mortar (above) and a batch of 50-50 cement-lime mortar made with the same proportion of sand (right). Get any competent bricklayer to test them on the board—to spread them on the wall—to lay up a few brick with each of the two mortars. Then ask him *which* has the best workability.



BRIXMENT Assures More Economical Brickwork

Aside from the cost of the brick itself, the most expensive item in masonry construction is the bricklayer's time.

Therefore the most economical mortar you can buy is the one that enables the bricklayer to lay the most brick per day. You cannot afford to give your bricklayer any mortar which causes unnecessary work, such as constant retempering, stooping to the board to replace mortar that failed to stick when he threw up the head-joint, etc.

To secure economical brickwork, the mortar must have excellent workability.

The plasticity of Brixment mortar is *ideal*. It approaches that of straight lime putty. It enables the bricklayer to do faster, neater brickwork, with the brick well bedded and the joints well filled.

This is the principal reason why Brixment reduces the cost of brickwork. But in addition, less labor and supervision are required in mixing. No soaking or slaking. No mortar is wasted. And Brixment mortar makes a neater job that costs less to clean down.

BRIXMENT

For Mortar and Stucco

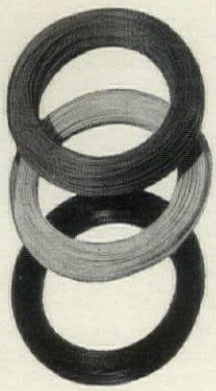
Louisville Cement Company, Incorporated, Louisville, Kentucky. Cement Manufacturers for Over a Century.

G-E Wiring Material News

FLAMENOL* BUILDING WIRE

(Small Diameter Type SN)

FOR ALL WIRING PURPOSES



Here's an ideal wire to specify for new wiring . . . for extension wiring . . . for rewiring. Its thermo-plastic insulation is superaging, flame-retarding and resistant to oils, moisture, acids, etc. It was developed before the war and has proved its worth in many different types of buildings. Flamenol Building Wire is available in sizes 14 to 1,000,000 CM.

Reg. U.S. Pat. Off.

G-E WATCH DOG* FLUORESCENT LAMP STARTERS

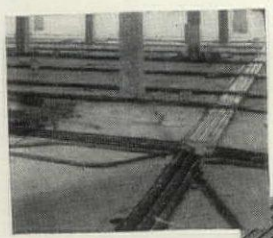
Specify the FS-40 and the FS-100 Watch Dog starters for 40- and 100-watt fluorescent lamps. The FS-40, introduced first, has efficiently protected 40-watt lamps in war plants for many months. Now the FS-100, just introduced, will protect 100-watt lamps in the same way. Both Watch Dog starters completely eliminate the annoying blinking of dead lamps.

Reg. U.S. Pat. Off.

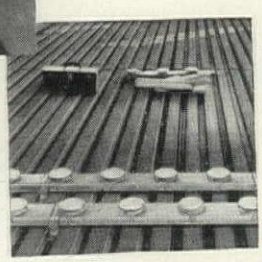


UNDERFLOOR ELECTRICAL DISTRIBUTION SYSTEMS

General Electric offers two types of underfloor wiring. Both give almost unbelievable flexibility to shops, factories, offices, etc. Electrical outlets can be added later as they are needed.



Specify G-E Fiberduct for masonry and wood type construction



Specify G-E Q-Floor Wiring with Robertson Q-Floors

CLIP THIS COUPON

Send the coupon for further information on G-E products described on this page:



General Electric Co., Section CDW-1239-26
Appliance and Merchandise Dept.
Bridgeport, Conn.

Sirs: Please send me information on:

- ☐ Flamenol Building Wire
- ☐ Watch Dog Fluorescent Lamp Starters
- ☐ Fiberduct Underfloor Wiring
- ☐ Q-Floor Underfloor Wiring

Name .....

Address .....

City ..... State .....

GENERAL ELECTRIC

SPECIFICATION AND BUYING INDEX

The advertising pages of THE ARCHITECTURAL FORUM *are the recognized market place for architects and all others engaged in building. A house or any building could be built completely of products advertised in* THE FORUM. *While it is not possible to certify building products, it is possible to open these pages only to those manufacturers whose reputation merits confidence. This* THE FORUM *does.*

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(Mullins Manufacturing Corp.)

WHERE RESULTS COUNT....



Above: one of the interesting exteriors of the new Dodge Chicago Plant of the Chrysler Corporation.

At right: interior of typical aircraft engine test cell. Albert Kahn, Associated Architects & Engineers. George Fuller Construction Co., contractors.

...you can count on

SONNEBORN BUILDING PRODUCTS

Every detail of Chrysler Corporation's new Dodge Chicago Plant was designed and built for maximum results in production efficiency. Every product used in its construction had to meet rigid specifications . . . had to deliver results where results count.

For this outstanding project . . . as for many other war production plants and hundreds of installations of various kinds for the Armed Forces . . . many SONNEBORN tested building products for hardening, dustproofing, and decorating of concrete floors, finishing and preservation of wood floors, for waterproofing and dampproofing, for painting and protection, for caulking, for waxing, were selected and used in large quantities.

The Building Industry may rest assured that the high standards of quality which have always marked SONNEBORN products will be maintained. That means now; and in the new era of building which will follow Peace.

WHERE RESULTS COUNT . . . COUNT ON SONNEBORN

Sonneborn Products used in the Dodge Chicago Plant

SANTORIZED HYDROCIDE INTEGRAL WATERPROOFING PASTE
for Integral Waterproofing.

LAPIDOLITH LIQUID
(patented)
for hardening and dustproofing concrete floors.

CEMCOAT FILLER & DUSTPROOFER
Decorative finish for cement floors (for painting test cell interiors).

S. R. P. No. 75
Rust inhibitive coating for metal surfaces.

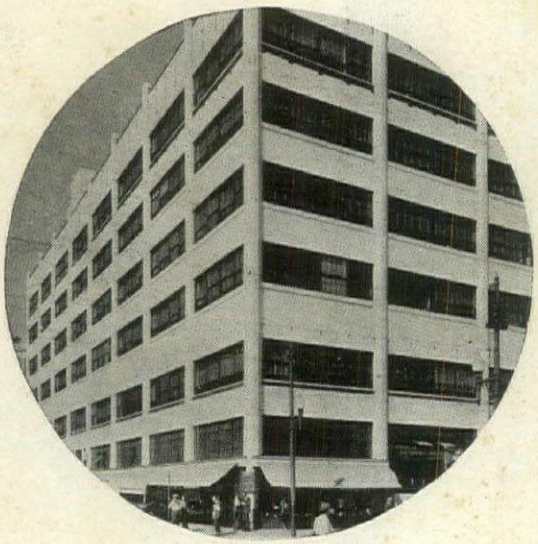
PENTROCURE
Concrete curing compound.

Building Products Division

L. SONNEBORN SONS, INC., 88 Lexington Ave., New York 16, N. Y.

restore masonry walls
with non-critical materials

no priorities required



Many masonry surfaces are being neglected today under the impression that their repair must be put off for the duration. This delay and greater expense later is entirely unnecessary.

WATERFOIL, a scientific contribution to masonry protection, was developed by the A. C. Horn Laboratories after 10 years of laboratory and field development, and meets today's needs. It is manufactured of irreversible inorganic gels, which "weld" themselves mechanically and chemically to concrete, stucco or brick surfaces. These materials are non-critical. They require no priorities and are available now.

WATERFOIL is not just a coating like paint, but it becomes an integral part of the masonry surface — forming a hard, heavy, microscopically fine-textured protective surface — which can be applied by any careful workman. No primers are used. WATERFOIL is backed by a nationally known company with 47 years experience. Thousands of important buildings and millions of square feet of surface have been protected by Horn Products. Tell us of your masonry conditions — we will give you our expert advice. Literature on WATERFOIL is available — write us today.

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BUILDING MATERIALS DIVISION
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WATERFOIL

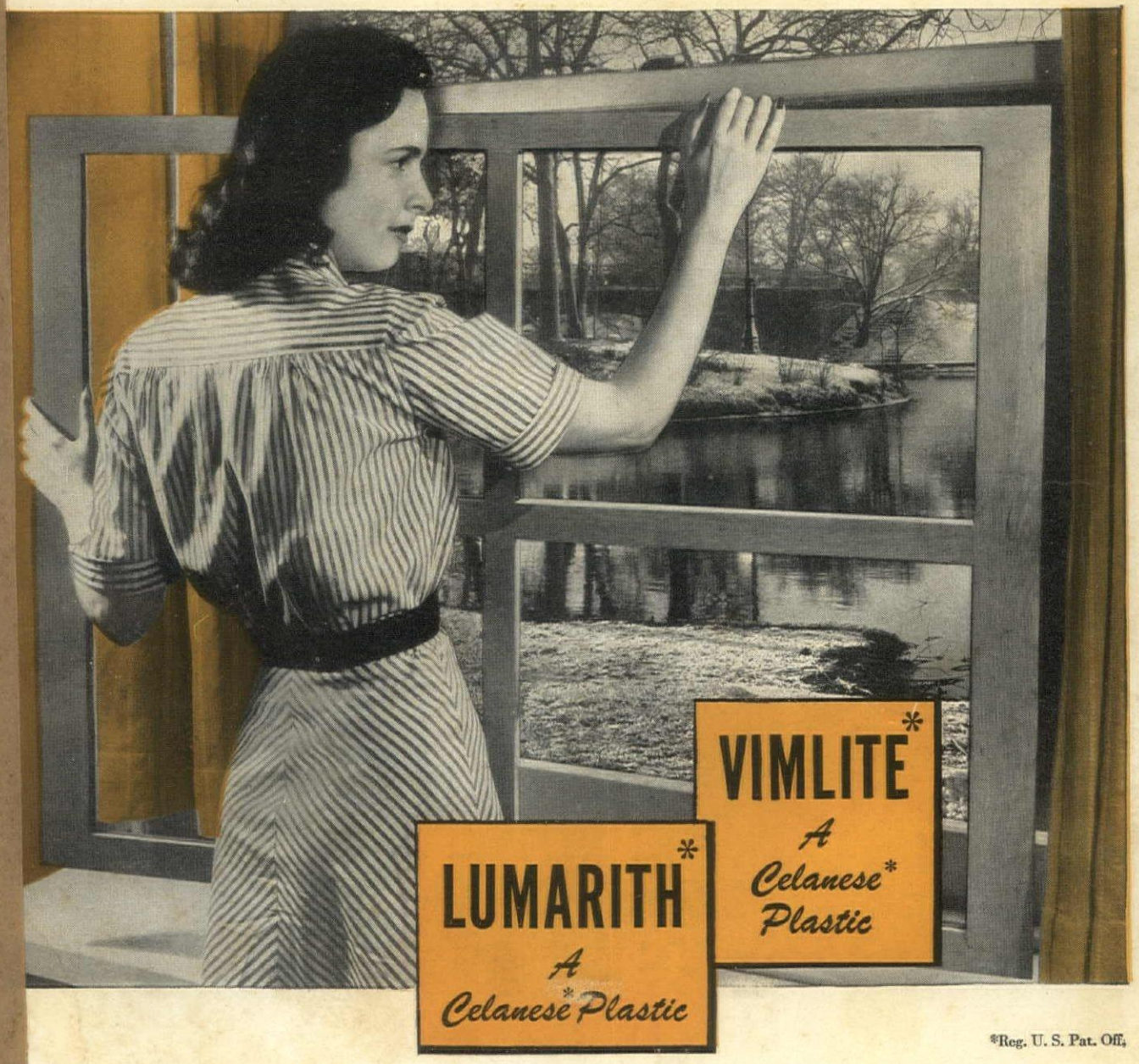
THE UNIQUE TREATMENT FOR EXTERIOR MASONRY SURFACES

PLASTIC GLAZING

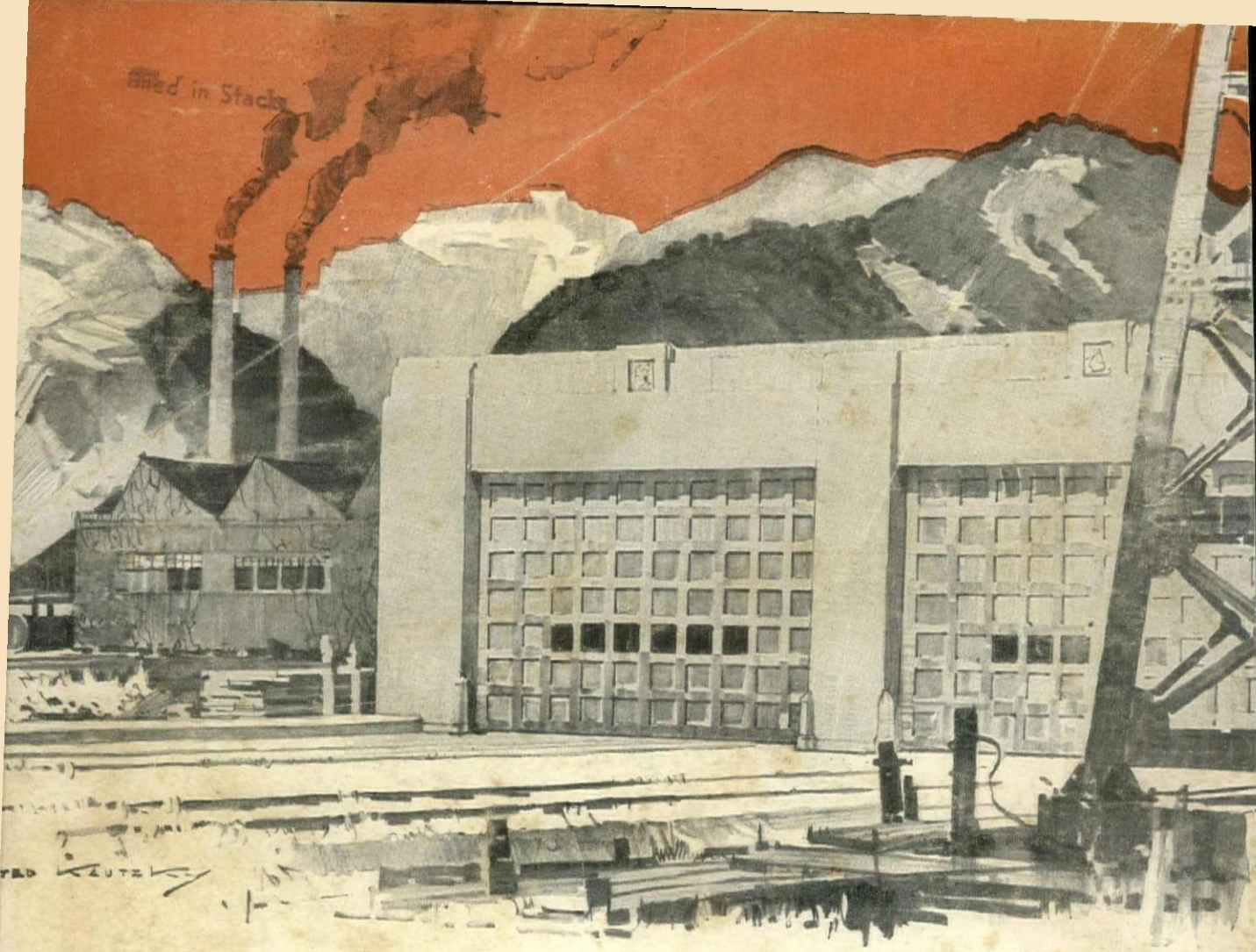
...worth its weight in Gold!

Here is a very plain-Jane, earthy picture. The home-made interior-type storm sash, glazed with Lumarith set in mastic is presented to you, not as an artistic gem, but a quick visualization of the fundamental values of plastic glazing. Ease of handling is a big advantage. The complete sash weighs no more than a window screen. A child can handle the job of installation—without ladders or other equipment. Lumarith plastic glazing is crystal clear—admits the sun's radiant heat and holds it in with its superior insulating properties. (Those interested in the storm sash market are including plastic glazing in their post-war plans.)

In poultry buildings, greenhouses, solaria and cold frames, Lumarith and Vimlite plastic glazing bring to growing things the health-promoting benefits of the sun's ultra-violet rays. Around the farm and home, there are countless uses for these modern glazing materials and for Lumarith plastics in many other forms. They can contribute function to architectural design and aid in solving planning problems—particularly where lightness and flexibility are deciding factors. You are invited to write for plastic glazing booklet containing samples—and to make full use of the technical service department of Celanese Celluloid Corporation, *The First Name in Plastics*, a division of Celanese Corporation of America, 180 Madison Avenue, New York City 16.



*Reg. U. S. Pat. Off.



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